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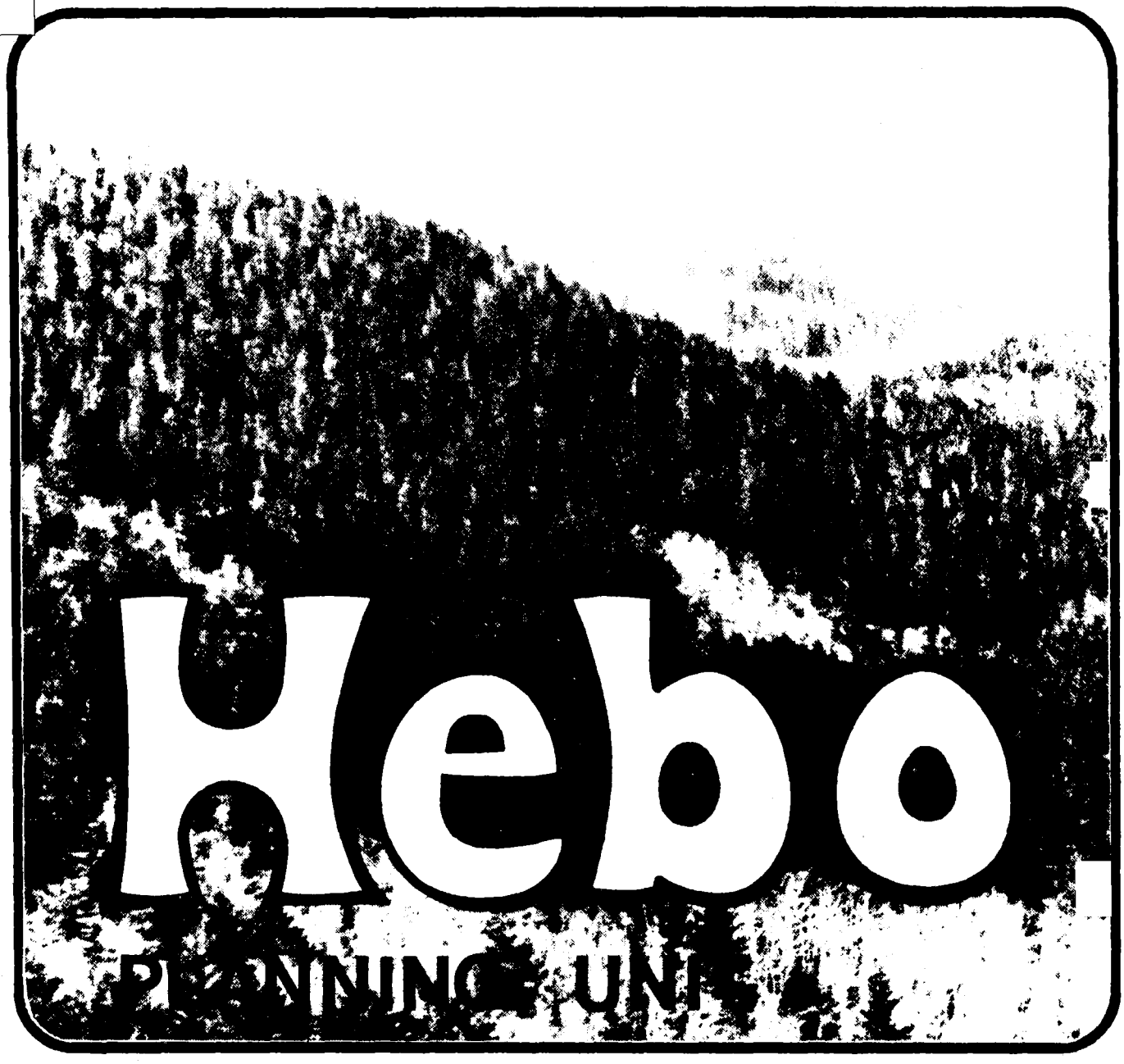
SOCIAL IMPACT ANALYSIS



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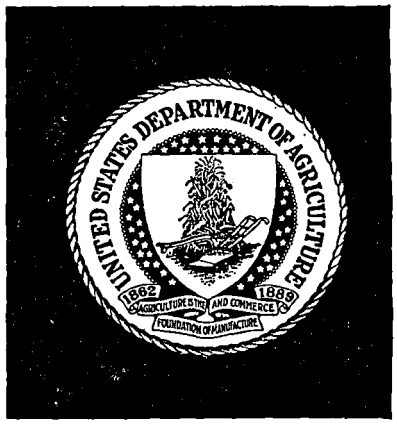

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SOCIAL IMPACT ANALYSIS

HEBO PLANNING UNIT

SIUSLAW NATIONAL FOREST

Prepared by

Arnold G. Holden, Ph.D.

Department of Sociology
Oregon State University
Corvallis, Oregon 97331

May, 1976

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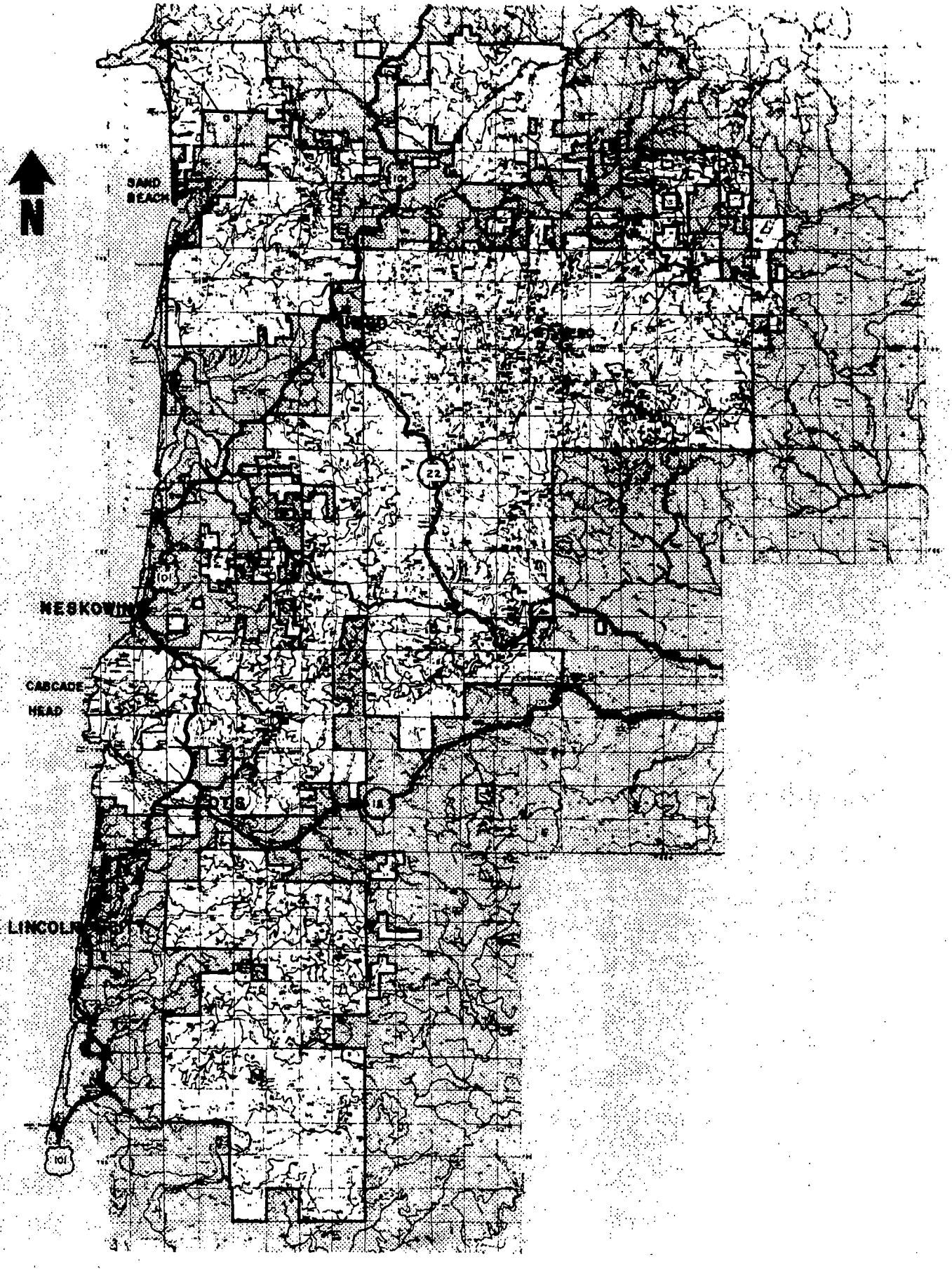

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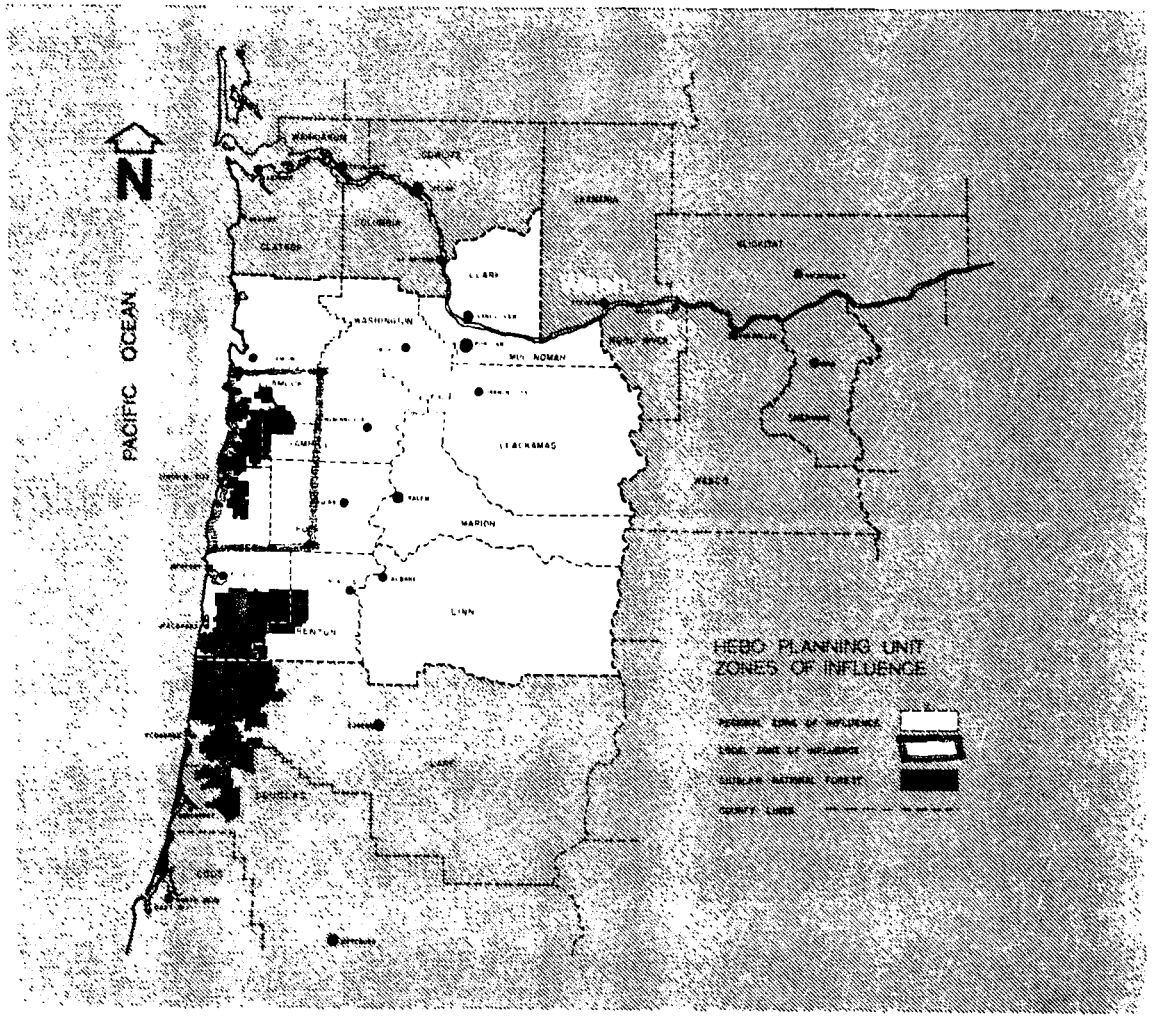
INTRODUCTION

INTRODUCTION

The Siuslaw National Forest is in the Coast Range of Oregon, between the Willamette Valley and the Pacific Ocean. Approximately 146,000 acres of forest land are in the Planning Unit. A Land Use Planning Process is underway for this Planning Unit which will determine future land allocations and resource output mixes. Some management alternatives have been proposed, but their potential impact on the area is not known. The purpose of this Social Impact Analysis is to identify likely effects of the proposed management alternatives.

For this analysis, the inter-connected aspects of community life are presented in three main areas: Demographic Conditions (the characteristics of its people), Social Organization (their activities and relationships), and Community Cohesion and Values (their similar and divergent beliefs). A fourth area, Quality of Life for Individuals, summarizes community life as it it experienced by community residents.



Zones of Influence

The social effects of the different Management Alternatives for the Hebo Planning Unit are examined according to the area of influence. Two zones of influence are considered here -- a Local Zone of Influence and a Regional Zone of Influence.

The Local Zone of Influence is that area closely surrounding and including the Planning Unit. It is an area roughly 60 miles north to south, and averages about 25 miles in east-west width. In 1970 it contained 28,391 people. It includes the southern half of Tillamook County, including the city of Tillamook and all villages south of it; the north half of Lincoln County, including Lincoln City, Depoe Bay, and Siletz; the western panhandle of Yamhill County, including the towns of Willamina and Sheridan; and the northwest corner of Polk, including Willamina.

The decision to exclude the central Lincoln County centers of Newport and Toledo, and the northern Tillamook County communities was made in consultation with the Siuslaw National Forest Land Use Planner. It was based on the knowledge that most forest products from the Planning Unit do not reach these areas. Also, most recreational and business traffic to these excluded areas uses roads across the Coast Range which are outside the Planning Unit. The excluded areas of Polk and Yamhill counties are significantly different from the Planning Unit in their social and land use character, being much more populated and more tied to large scale agriculture.

The Local Zone of Influence consists of the following U.S. County Census Divisions: In Lincoln County, DeLake, Depoe Bay, Siletz; in Tillamook County, Beaver, Neskowin, Tillamook; in Yamhill County, Sheridan, Willamina; and in Polk County, Willamina.

In many cases, information and statistics for the Local Zone of Influence, as described above, were not available. In these cases, the next best local information was used -- information compiled for the entire two county area of Lincoln and Tillamook counties. This two-county zone is a surrogate for the Local Zone of Influence. The entire counties of Polk and Yamhill, with the greater influence of agriculture and urban areas in their central and eastern areas, are not appropriate substitutes for the Local Zone of Influence.

The Regional Zone of Influence is a much larger area, and consists of most of the northwestern corner of Oregon. It is roughly 110 miles square, and contained one and half million people in 1975. It is comprised of the coastal counties of Tillamook and Lincoln; the Portland metropolitan area of Multnomah, Washington and Clackamas counties in Oregon and Clark County in Washington State; the Salem metropolitan area of Marion and Polk Counties, and the Willamette Valley counties of Yamhill, Benton and Linn.

The decision to draw the boundaries of the Regional Zone to exclude the northwest Oregon counties of Clatsop and Columbia, and Lane County in the Willamette Valley was made with the Land Use Planner at the Siuslaw National Forest and was based on the weak economic ties between these counties and the Planning Unit.

The social effects of management of the Planning Unit in national and international settings are greatly diluted and diffused. For this reason, no regular reporting of them is included in this report. However, when there are direct and identifiable national (or international) social impacts of management alternatives, they are reported.

Management Alternatives

Four management alternatives have been proposed and are considered in this analysis. The first, "Present Conditions," would be a continuation of current management goals and practices. The second, "Alternative A," would be similar to present management, except that three roadless areas would be allocated to future wilderness study for possible designation as wilderness areas. "Alternative B" is designed to produce as much harvestable wood fiber as possible, and "Alternative C" places greater emphasis on recreation, wildlife, and scenic quality.

Alternative - Present Conditions

This alternative would be a continuation of present management. The following examples show how identified problems will be managed under this alternative:

1. The three roadless areas are being maintained in an unroaded condition. In this alternative, the decision to allocate roadless areas is deferred into the future and a major problem remains unsolved. The roadless would continue on the land base for allowable cut calculation but unavailable for harvesting. This would continue disproportional cutting on roaded portion of Planning Unit.

2. The Mt. Hebo complex is being managed according to the existing electronic site plan, while the natural ecological succession of the grass openings is not being interfered with. Trees will cover the top of Mt. Hebo in the future under this direction.

3. Off-road vehicles are allowed on the entire District without restrictions, except at Sand Lake where there are minimum restrictions on their use.

4. Scenic values associated with travel corridors and developed recreation sites are protected so that the natural landscape character is retained. The effects of man's activities may be evident, but not dominant.

5. Timber management direction is to bring all the various timber stands under intensive management as modified by the new Timber Management Plan.

6. In cooperation with the State Department of Fish and Wildlife, elk management is being evaluated to determine the potential to increase elk numbers. Some animals have been stocked and a moratorium is holding up additional stocking until evaluation is completed.

7. Both developed and dispersed recreation use occurs with little emphasis on trail use. Incidental dispersed recreation use is auto-associated.

8. Domestic water users use of a stream indicates a higher water quality goal.

Alternative A

This alternative emphasizes the conditions that protect potential wilderness values, while continuing the current trend in furnishing good services and amenities.

1. The three roadless areas are allocated to future wilderness study, and will be evaluated for wilderness classification.

2. All other examples listed for Alternative A apply to this alternative, except the outputs for timber production will be reduced by the acreage of the roadless areas which are removed from the timber base for cut calculations.

Alternative B

This alternative is a blend of activities designed to produce as much wood fiber as possible, while maintaining the opportunities for dispersed and developed recreation and consistent with environmental constraints. Some examples of the kinds of management activities that will lead to this future and will respond to planning objectives are listed below:

1. The Mt. Hebo complex is to be managed according to the existing electronic site plan, while the grass openings will be converted to timber production.

2. Off-road vehicle use will be allowed only at Sand Lake, and then with restrictions on use to protect the site for long term ORV use.

3. Visual quality value constraints of travel corridors are minimized to allow more of man's activities to be evident.

4. Some hardwood stands will be identified and managed for the production of hardwoods when conversion would be difficult, uneconomic, or the site is identified as a hardwood ecosystem.

5. The main constraints on timber production are soil and water considerations, topography and harvesting techniques.

6. Grazing by domestic animals will be discouraged if any conflict exists with timber management.

7. Wildlife habitat management will be limited to that necessary for coordination with timber production in order to protect existing wildlife values.

8. On some roads, dispersed recreation use will encourage people to use an intensively managed forest. Portions of the road system will be closed to vehicular use, except for commodity purposes.

9. Existing level of coastal and stream oriented developed recreation sites will be maintained.

10. Efforts will be made to consolidate domestic water user intakes. State water quality standards will be the goal for all areas except those covered by a cooperative agreement.

Alternative C

This alternative is a blend of activities that allow timber management of varying intensities over most of the available acres, but places greater emphasis on scenic values, recreation and wildlife. The following examples exhibit how the identified problems will be handled:

1. The Mt. Hebo complex will be maintained according to the existing electronics site plan. The grass openings will also be maintained.

2. Visual quality values of travel corridors and developed recreation sites will be protected so that the natural character is maintained, with the effects of man's activities minimized.

3. Wildlife habitat management will be directed toward providing diversity of habitats for native species.

4. Elk populations will be encouraged to increase.

5. Areas will be identified and managed for hardwood and old growth conifers.

6. Intensive timber management efforts will be directed to those areas with few conflicts with other uses. Other areas will contribute to potential harvest consistent with recognized constraints and other resource values.

7. Off-road vehicle use will be allowed with restrictions to protect other resources. ORV use will be allowed with minimum restrictions at Sand Lake.

8. Additional coastal and stream oriented developed recreation sites will be provided.

9. Grazing by domestic animals will be encouraged where potentials exist, and conflicts with wildlife use are minor.

10. Domestic water user values will take precedent over intensive timber management.

DEMOGRAPHIC CONDITIONS

DEMOGRAPHIC CONDITIONS

Population Size

Two very different demographic patterns are seen when one looks at the Local Zone and at the Regional Zone. The Regional Zone has been characterized by substantial and rapid population growth over the last 25 years, and the projections suggest that the trend will continue. At the local level, population has been much more stable. The relative lack of economic opportunities has encouraged people to leave the area, and it has shown a net out-migration until recently. A moderate growth trend in population size now seems established for the Local Zone, as retirees and other seeking a slower pace of life move to the area.

TABLE I

POPULATION, 1950-1975

Local Zone of Influence		
1950	not available	
1960	27,081	
1970	28,391	a 4.8% increase
1975	not available	
Lincoln and Tillamook Counties		
1950	39,914	
1960	43,590	a 9.2% increase
1970	43,789	a .5% increase
1975	46,150	a 5.6% increase
Regional Zone of Influence		
1950	991,832	
1960	1,443,408	a 15.3% increase
1970	1,405,375	a 22.9% increase
1975	1,534,050	a 9.2% increase

(Source: 12, 83, 84, 85)

Density

In 1970, the population density of the zones ran from about 25 persons per square mile for the Local Zone of Influence; 20.8 persons per square mile for Lincoln and Tillamook counties; and about 125 persons per square mile for the Regional Zone (55).

These figures are somewhat misleading. The area within the Local Zone contains much land which is not suitable for agriculture or housing, and thus its population, where it occurs, is more densely settled than the figures of 25 per square mile would indicate. Similarly, the counties in the Regional Zone contain large areas of sparse population, some of which will be developed and much of which could be used for housing and development if political decisions (land use plans, zoning) permitted.

In fact, given the geological and public ownership restrictions on the land in the Local Zone, it seems that habited areas are more densely settled in the Local Zone than in the Regional Zone. A scarcity of land to develop is likely greater in the Local Zone than in the larger, more populated Regional Zone which currently has the higher actual population density (41).

Different management alternatives will affect density via the effect that they have on resident population, seasonal homes, and the local economy. See the following sections.

Age and Sex

Like other demographic characteristics, there is a different pattern between the Local Zone of Influence and the Regional Zone. The following tables describe the Local Zone as one with a significant population of older citizens. The Regional Zone has proportionally fewer older citizens and, despite a larger proportion of children, also has a larger proportion of those in the economically productive years (18-64 years).

The proportion of the population over 64 years has increased in Lincoln and Tillamook counties at rates significantly greater than those for the region or the State of Oregon since 1940 owing to the migration of an older population to the coastal area for retirement and the out-migration of younger adults (55).

Alternately, the growth of the Portland and Salem metropolitan areas since 1940 (particularly in their suburban regions) drew young adults from other rural areas to increase the proportion of economically active adults in the total population. This group has more children than the older population of the coastal area, but, given the lower birth rate for metropolitan populations, its difference is not as great as one would have guessed.

The sex ratios also fit with known national patterns. Typically, the service industry economies of urban places have greater opportunities for women. Thus, the Regional Zone has greater proportion of women. The known rural pattern of a greater proportion of males is countered in the Local Zone by the relatively old population with its women outsurviving the men. This trend has progressed since 1940, and supports the above observations (55).

Different Management Alternatives will affect the age and sex composition to some degree. An emphasis on wood fiber production (Alternatives B and Present Conditions) will tend to increase or maintain the portion of the young and of males in the population in the Local Zone. An emphasis on scenic values and recreation (Alternative C) will tend to increase the portion of the aged in the Local Zone, and as a result, the portion of females. The Management Alternative emphasizing wilderness (Alternative A) will decrease the portion of young.

Each pattern imposes a different set of costs and benefits on local institutions. In the traditional emphasis on economic growth, the younger population was viewed by most communities as desirable, as the older population was seen as requiring and demanding particular social services. However, the young impose greater pressure on schools, highways, police; the old require more health care facilites, support lower local taxes, and if local economic conditions are healthy, greater social welfare assistance. In repressed local economic conditions, the young also require social assistance in the form of unemployment payments and aid for children.

TABLE II

POPULATION BY AGE, 1970

Local Zone			
	Under 18 years	9,190	32.4%
	18-24 years	14,946	52.6%
	Over 64 years	4,255	15.0%
	Total	28,391	100.0%
	Dependency Ratio* 90.0		
Lincoln and Tillamook Counties			
	Under 18 years	13,892	31.8%
	18-64 years	23,257	53.2%
	Over 64 years	6,536	15.0%
	Total	43,685	100.0%
	Dependency Ratio* 87.8		
Regional Zone			
	Under 18 years	464,958	33.1%
	18-64 years	785,764	55.9%
	Over 64 years	154,653	11.0%
	Total	1,405,375	100.0%
	Dependency Ratio* 78.9		

(Source: 81, 82)

*Dependency Ratio = (number under 18 years + number over 65 years/number 18-64 years) x 100

TABLE 111

POPULATION BY SEX, 1970

Local Zone		
	Males	14,106
	Females	14,285
	Total	28,381
Sex Ratio	98.7	
Lincoln and Tillamook Counties		
	Males	21,563
	Females	22,122
	Total	43,685
Sex Ratio	97.5	
Regional Zone		
	Males	681,399
	Females	723,976
	Total	1,404,375
Sex Ratio	94.1	

(Source: 81, 82)

Population Change -- Fertility and Mortality

The population projections in the following tables are based in large part on the projections compiled by the Oregon Center for Population and Census Research and Portland State University, and are generally regarded as the best projections available. (13)

They take into account future levels of mortality (higher in counties with large numbers of older citizens), fertility (highest in counties with large numbers of young adults), and migration.

As such, they show moderate growth in Lincoln and Tillamook counties. That growth is not as rapid as the expected growth in the Regional Zone, but growth that could see as much as a 54% increase in the two-county area in the next 25 years, or that growth might be as slow as a 24% increase by 2000. (The projections suggest a 35% to 64% increase in the Regional Zone's population by 2000.)

The Local Zone's population will grow no matter which Management Alternative is selected. It is not possible to determine the absolute or relative amounts of the resultant increases, but Alternative B would create a younger population, and Alternative C would encourage an older population than the mix created under Present Conditions. Alternative A would come closest to slowing population growth in the Local Zone, and would decrease the portion of the young in the population most.

TABLE IV

RESIDENT POPULATION PROJECTIONS, 1970-2000

Local Zone of Influence (Projections based on an area slightly larger than the Local Zone as defined above)			
1970		29,200	
1980		33,600	a 15% increase
1990		39,600	a 18% increase
		(Source: 44, 85, 88)	
Lincoln and Tillamook Counties			
1970		43,685	
1975		46,150	
1980	high estimate	49,600	
	medium estimate	49,400	a 13% increase from 1970
	low estimate	48,800	
1985	high	54,500	
	medium	52,800	
	low	51,700	
1990	high	59,300	
	medium	56,000	a 14% increase from 1980 medium
	low	53,800	
1995	high	65,100	
	medium	59,500	
	low	55,900	
2000	high	71,100	
	medium	62,400	an 11% increase from 1990 medium
	low	47,000	
		(Source: 11, 12, 85)	

Regional Zone of Influence			
1970		1,405,375	
1975		1,534,050	
1980	high estimate	1,683,500	
	medium estimate	1,667,700	an 18% increase from 1970
	low estimate	1,655,400	
1985	high	1,868,300	
	medium	1,817,900	
	low	1,782,600	
1990	high	2,088,300	
	medium	1,983,000	a 19% increase from 1980 medium
	low	1,913,600	
1995	high	2,298,600	
	medium	2,118,300	
	low	2,004,600	
2000	high	2,509,300	
	medium	2,232,500	a 13% increase from 19 0 medium
	low	2,063,600	

(Source: 11, 12, 85)

The projections are computed by the cohort survival method which accounts for the effects of fertility and mortality in a population. The high, medium and low projections are based on three different assumptions about migration rates. The high estimate is based on a continuation of the high rate of net in migration between 1970 and 1975. The medium estimate assumes a gradual decline in the rate of net in migration to the levels of 1960-1970 by the year 2000, and the low estimate assumes that the net migration will decline to zero by the year 2000.

The Center for Population Research and Census prefers the low estimate, suspecting a slowing rate of economic development of the State, partly due to increasing costs of energy (13). This writer prefers the medium estimates, believing that migration will not decline as rapidly as suggested by the low estimate assumption. While not disagreeing that development will slow, I think that migration will be significant. I base this partly on the well-established and slowing growing preference for life in less urban surroundings, as well as current differences in Oregon's in- and out-migrants. (In-migrants are slightly less educated and less well paid than out-migrants (57). Oregon will be the recipient of those who are opting out (to greater or lesser degrees) of the more competitive urban life in California and Washington. The national growth in the importance of social values of lower consumption and rural life, tempered by the slower rate of development in Oregon, will continue to spur migration to Oregon, though not at the heavy rates of 1970-1975.

Population Change--Migration

The migration of people is a crucial element in the population size of both the Local and Regional Zones, though its effects are reversed. The Regional Zone has grown dramatically, particularly in the last 15 years, from migration into the area, while the Local Zone has lost population through migration during the same period.

Lincoln and Tillamook Counties:

Tillamook County lost population through migration to other parts of Oregon and other states between 1950 and 1970, at a rate equivalent to 14% of its population 1950-1960, and at 11% from 1960 to 1970 (1, 2). Lincoln County also lost population through net migration between 1960 and 1970 at the low rate of .3%. This reflects the net loss of many young adults and their replacement by older adults in their fifties and sixties (2). This same pattern occurred in the 1950's, though with sufficient replacement by retirees and middle-aged people to show a net gain through migration of 1% (1).

The two counties together show a net loss of 2,785 people in the 1950's, and 2,299 people in the 1960's (1, 2). However, these figures do not show the full force of this migration -- they do not fully show the social and economic effects of the loss of young adults and their replacement by retirees. Migration must be seen as the symptom and not the cause of the problem. The out-migration of youth reflects the lack of higher educational facilities in the counties and the less than vigorous economy, as well as youth's time-honored fascination with the economic and social opportunities of urban areas. Retirees, on the other hand, benefit from the recessed economic conditions which offer a lower cost of living, appreciate the slower pace of life, benefit from the ease of converting summer homes to year-around retirement homes, and low cost of the retirement activities which the Coast offers.

Different management alternatives on the Planning Unit will not dramatically change these migration patterns. Alternative B, which would offer some new jobs, will not have an immediate impact on in-migration, as many of these workers can commute daily from some distance away. Alternative C, which would present fewer woods-related jobs without an equivalent increase in recreational employment, would tend to encourage the retirement-related migration to some slight degree. Alternative A would cause some out-migration of the young balancing the in-migration of retirees, though the tie between employment and migration is weak and elastic.

Regional Zone of Influence:

Migration from other states and from rural parts of Oregon have caused the urban and suburban areas of the region to grow during the 1950's and 1960's. The area showed a net migration gain of around 4% in the 1950's and a dramatic 14% increase due to net migration between 1960 and 1970 (1, 26).

Recent evidence indicates that this rate of net in migration continues, perhaps at a slightly higher rate (12).

This migration is prompted by trends that are national in character and origin. The trends away from rural areas and toward suburban and metropolitan settings are well established and will continue. While there has been much speculation about a "return to the land" movement, this will not occur in sufficient strength to repopulate very rural areas. There will be continued, perhaps increasing, pressure on rural land convenient to metropolitan amenities.

None of the Management Alternatives on the Planning Unit will have identifiable effects on migration patterns when considering the whole Regional Zone of Influence.

Periodic Fluctuations

In considering the population of the Local Zone of Influence, the effect of its recreational population must be considered. This area has many recreational second homes and also attracts large numbers of tourists. These people impose a demand for public and private service which is significantly greater than the demand for these services in the "off-season."

Estimating this population is somewhat difficult. A common technique, used here, attempts to determine the number of facilities for vacationers, and then multiplies by an estimate of the average size of party - in this case, three persons per recreational party.

Facilities for tourists and vacationeers are found almost entirely in the Lincoln and Tillamook County parts of the Local Influence Zone. There are, for example, no listings for "Motels" in the Sheridan telephone directory yellow pages (62). In the Local Zone, we find estimates of 2,775 seasonal (second) homes (14, 35), 1,750 indoor units for transients (motels, hotels, etc.) (7, 38), and 1,725 outdoor campsites (33, 37). Multiplying this total of 6,250 by an average three persons per party yields an estimated temporary population of 18,750. Added to the 28,391 permanent residents of the Local Zone, a peak overnight population of 47,000 seems reasonable. To this number should be added a large number of day visitors who will return to their homes. A temporary doubling of the population of the Local Zone to 60,000 is quite likely, particularly on holiday weekends.

Similar estimates for the two-county zone of Tillamook and Lincoln counties suggest 4,600 seasonal homes (14, 35), 3,575 indoor units for travelers (38, 43), and 2,000 campsites (37, 43), which, when multiplied by the estimated three persons per party, yields a 30,525 overnight population; which, when added to the resident population of 43,789, suggests a peak overnight population of 74,000. Again, a doubling (and some knowledgeable sources suggest a tripling) of the resident population size is entirely feasible on some days of the year.

Several sources (44) project an increase in the relative size of temporary populations. While precise projections of tourist populations require consideration of too many factors and might be highly misleading, it would be wise to project a peak temporary doubling of the population in any future population. While highly influenceable by the cost of energy, the quality of roads, and the regional economic conditions, visits to the Coast will likely increase at a rate quivalent to the population increase in the local area. (See Population Size.)

Management alternatives will affect the size of temporary populations. Inadequate water supply for communities of second homes (e.g., Pacific City, Woods, Neskowin) would serve to limit the number of new second homes in these areas (41). Similarly, deterioration of visual quality along travel corridors, or in areas visible from recreation sites, woulds tend to lower the number of temporary visitors (particulary if visual amenities in other parts of the Region were at a higher level). The travel congestion and highway conflicts associated with intensive timber management would also make travel to the area less popular with potential visitors. (See Local Economy)

Alternatively, continued improvement in water supply, water quality (and improved recreation), and visual quality will, other things equal, create greater numbers of temporary visitors, each placing some strain on existing public and private facilities and amenities.

Racial and Ethnic Composition

As is readily apparent in scanning the following tables, the population of the Local Zone of Influence is almost entirely white. American Indians and Spanish-Speaking persons are the largest minorities in the Local Zone, though they comprise less than two percent of the total population in the Local Zone or in the two-county zone of Lincoln and Tillamook counties.

In the Regional Zone, Blacks are the largest minority group, with about 2% of the regional population. The Spanish-Speaking also comprise about 2% of the regional population, and Amerian Indians about a half of a percent of the region's population. (The proportions may be slightly greater than this. Minorities, for a variety of reasons, tend to be under-enumerated in censuses.)

The Blacks in the region live predominately in Portland, and are typically urban in their life style and economic activities. The Spanish-Speaking more typically live in the Willamette Valley from Salem north. Their economic activities are more closely tied to agriculture. Native Americans in the region live primarily in the Portland and Salem metropolitan areas.

Different management alternatives on the Planning Unit would likely affect Native Americans and the Spanish-Speaking the most directly of these groups. Living within commuting distance, and with a heritage of outdoor work, they might find increased employment in more intensive management of timber lands. As the recreation related work force typically is drawn from local residents, an increase in the recreation sector would not directly benefit these minorities, though it would be beneficial to the depressed economies of the coastal counties.

TABLE V

RACIAL AND SELECTED ETHNIC COMPOSITION, 1970
(81, 82)

Local Zone of Influence			
White	27,680	97.5%	
Black	69	.2%	
All other	642	2.3%	
Total	28,391	100.0%	
Lincoln and Tillamook Counties			
White	42,962	98.3%	
(Spanish language)	(311)		(0.7%)
Black	106	.2%	
Indian	437	1.0%	
Japanese	61	.1%	
All other	119	.3%	
Total	43,685	100.0%	
Regional Zone of Influence			
White	1,360,503	96.8%	
(Spanish language)	(21,801)		(1.6%)
Black	24,289	1.7%	
Indian	6,315	.5%	
Japanese	4,862	.3%	
All other	9,406		
Total	1,405,375	100.0%	

SOCIAL ORGANIZATIONS

SOCIAL ORGANIZATIONS

Local Economy

The major social impacts of differing management of the Hebo Planning Unit will be experienced through their economic effects. Those effects will be felt more dramatically in the Local Zone than in the Regional Zone.

Under present conditions, an annual timber production of 78 million board feet is forecast. Using the multipliers presents in the Marys Peak Planning Unit Draft Environmental Statement (58), this translates into 585 jobs in the forest industry, and 1,170 jobs in service and trade sectors. In total, this timber production generates 58.5 million dollars in the private economic sector.

The second major economic use of forest land is for tourism and recreation. It is extremely difficult to attach economic value to recreational activity for a variety of reasons (43). The tourist buys groceries, meals, and gasoline at the same facilities that residents use. Motels serve commercial travelers as well as vacationers. Purely recreational businesses, such as resort hotels and amusement parks, are rare on the Oregon Coast relative to the total amount of tourists. Recreational activities in this coastal region are typically those which require little outlay of money at the time. Camping, fishing, and hunting all require capital investment, but equipment can be purchased at urban areas far from the Local Zone. In addition, supplies for a several day stay can be easily purchased at home before the weekend or week-long vacation.

Thus, the type of recreational activities in the Local Zone generate substantially less than the per-tourist income created in more commercially dominated recreational areas such as Florida, Southern California, Hawaii, or in cities which are popular with tourists, such as San Francisco or New Orleans (45). Similarly, the area is "too close" to the residences of many of its recreational users, so they bring much of their goods with them. This is not as much the case in more remote tourist areas such as Alaska, Maine, and the Mountain West. Most tourists in the Local Zone are from the Willamette Valley (23).

Changing our focus to the two-county zone of Lincoln and Tillamook counties to obtain some data on employment and payrolls in these two industries, we see the economic dominance of lumber and woods products, particularly in Tillamook County. Tourism is more important to Lincoln County's economy. (Readers are encouraged to consult Chapter F in (43) for further reading on estimates on the travel industry -- and a discussion of the difficulty of studying it. Economic estimates in (22) seem high. Readers may believe that the estimates given here are too low for the travel industry. However, they come from the same source as the estimates of Lumber and Woods Products estimates, and therefore both are based on similar methods and assumptions. While the actual numbers of employed and the size of payrolls may be different than actual figures, the discrepancy should be similar for both industries.)

TABLE VI

AVERAGE ANNUAL EMPLOYMENT, 1973

	Tillamook	Lincoln	Two-County
Lumber and Wood Products Industry	1,418	805	2,223
Travel Industry	218	1,207	1,425

(Source: 43)

TABLE VII

ANNUAL PAYROLL, 1973

	Tillamook	Lincoln	Two-County
Lumber and Wood Products Industry	$14,572,000	$7,354,000	$21,926,000
Travel Industry*	1,744,000	9,656,000	11,400,000

*Based on an hourly wage of $4.00 and 50 40-hour weeks for an annual income of $8,000 per worker.

(Source: 43)

How much conflict is there between these two major industries, and what is the effect of increased activity in one on the other? Standard knowledge says that increases in timber harvest, with its effect of decreased scenic values, increased truck traffic, and lowered water quality, decreases the attractiveness of the area to tourists, and thus diminishes tourist travel. However, increased timber harvest may attract some recreationalists, such as deer and elk hunters, campers and other recreationalists who use forest access roads. Increased forest management activity and increased timber harvest would increase the size of local residents' recreational budgets who patronize the tourist industry as well as non-local residents.

The effects need be considered by type of recreational activity. Fishing on coastal streams and clamming and crabbing in bays would be harmed by lowered water quality. Hunting, if measured by game bagged, would be improved by timber harvest, as game species typically reach larger population in new, rather than old-growth, forests. However, satisfaction with a hunting experience does not depend solely on success in bagging game. Some of the social and aesthetic concerns typically associated with non-consumptive forest recreation uses are likely involved.

So that, while increased timber harvest may increase the size of deer herds and the number of animals bagged per season, net hunter satisfaction may be diminished. Aesthetic concerns must be considered as well as water quality and size of fish populations in considering fisherman satisfaction, (i.e., hunters and fishermen may dislike the look of clearcuts as much as bird-watchers).

The majority of sight-seeing, photography, and undirected appreciation of scenery occurs within a mile of the Pacific Ocean or along State Highways. Thus, the impact of visual scars made by clearcuts, roads, and logging operations will not directly bother many if they are not visible from the beach, U.S. Highway 101, or from State Highways 18 and 22.

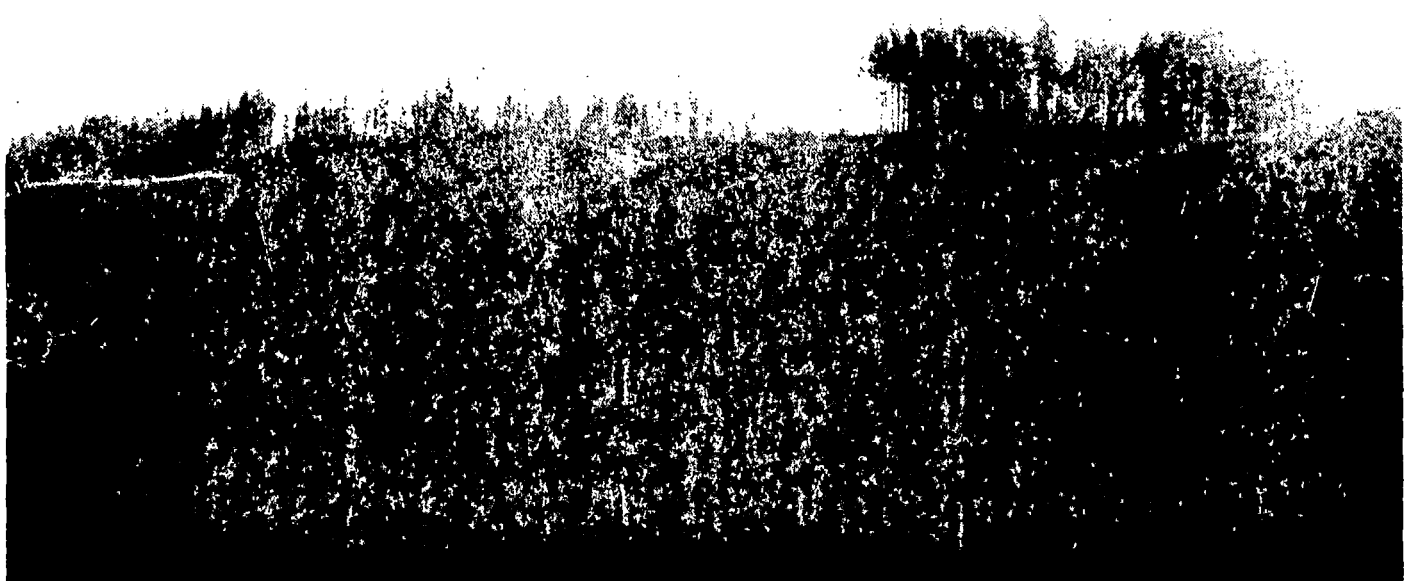


TABLE VIII

OCCUPATION OF EMPLOYED

Description	Regional Zone	%	Two-County Zone	%
Professional, technical & kindred	82,055	15.2	1,519	10.0
Managers and administrators	51,806	9.6	1,797	11.8
Sales workers	42,394	7.9	1,001	6.6
Clerical and kindred	98,784	18.3	1,760	11.5
Craftsmen, foremen and kindred	71,026	13.2	1,885	12.4
Operatives, except transport	56,919	10.6	1,947	12.8
Transport equipment operatives	22,173	4.1	644	4.2
Laborers, except farm	27,289	5.1	1,451	9.5
Farmers and farm managers	7,103	1.3	472	3.1
Farm laborers	7,405	1.4	274	1.8
Service workers	65,676	12.2	2,372	15.5
Private household workers	5,707	1.1	138	0.9
Total	538,338	100.0%	15,260	100.0%

(Source: 82)

TABLE IX

INDUSTRY OF EMPLOYED

Description	Regional Zone	%	Two-County Zone	%
Extractive industry, agriculture, forest, fishing, mining	21,109	3.9%	1,391	9.1
Construction	32,357	6.0	900	5.9
Manufacturing	113,387	21.1	3,732	24.5
Transport, communications, utilities	41,205	7.7	799	5.2
Wholesale and retail trade	119,134	22.1	3,198	21.0
Finance, bank, credit, insurance, real estate	31,448	5.8	496	3.3
Service and government	179,698	33.4	4,744	31.1
Business, repair, personal, recreation services	44,367	8.2	1,801	11.8
Health	34,252	6.4	602	3.9
Education	50,198	9.3	1,147	7.5
Public administration, professional, welfare and religious services	50,881	9.5	1,194	7.8
Total	538,338		15,260	

(Source: 82)

In looking at the occupational and industrial structures of the Regional and Two-County Zones of Influence, we see that Lincoln and Tillamook counties contain only 3% of the regional work force. It is obvious that changes in the number of jobs in the local setting will have far greater impact on the Two-County Zone than on the Regional Zone.

Under Alternative Present Conditions, 1,755 jobs directly and indirectly derived from timber harvest on the Planning Unit comprise a significant 11.5% of the 15,260 two-county work force (of 1970) (82). An employed work force of 18,220 with an additional 2,100 unemployed is reported by the Oregon Department of Labor for the two-county area in November 1975 (49). These figures seem very inconsistent with 1970 data and subsequent population growth. The discussion here is based on the lower, 1970, census figure of 15,260 employed. Those 1,755 jobs constitute only 0.3% of the 1970 work force in the Regional Zone of influence.

The Two-County Zone of Lincoln and Tillamook counties is serving here as a substitute for the Local Zone, as occupational statistics are not available for that zone. However, by assuming a similar population/work force ratio, a work force of 9,900 for the Local Zone is feasible. As many of these timber harvest related jobs are located in the Local Zone, employment impacts are at least as great in the Local Zone as they are in the Two-County Zone. As Willamina and Sheridan are located outside the Two-County Zone, specific consideration of the industry and employment there should be made.

Viewed in the context of the Local Zone and the Two-County Zone, the various Management Alternatives have substantial impacts on the timber related employment. In the Two-County Zone, the loss of 405 jobs under Alternative A represents a decrease of 2.5% in the employed work force of 15,260. Alternative B would add 113 jobs, equivalent to 0.7% increase, while Alternative C would result in an estimated loss of 247 jobs, or a 1.6% decline in the number employed in the Two-County Zone.

No specific estimates of the employment impact on recreation and travel-related jobs can be made. However, two general statements seem reasonable. One, increased timber harvest will likely not decrease the number of tourist industry jobs to a significant degree. And, two, decreased timber harvest will not increase tourism related jobs to a great degree.

As noted elsewhere, increased timber harvest has effects (increased traffic, road damage, visual deterioration, lower water quality) which tend to discourage tourism. However, as the tourist industry is largely oriented to the beach, ocean, bays, and rivers, these negative effects will likely be partly overlooked by most tourists and recreationalists; particulaly if care is taken to maintain visual quality along travel and recreational corridors. Thus, little negative impact on tourist and recreational related employment is expected from Alternative B.

On the other hand, Alternatives A and C will likely not stimulate a dramatic increase in tourism and recreation and, therefore, not create sufficient jobs to replace those lost in the forest industry. Alternative A principally creates wilderness study areas, but wilderness areas typically do not require or provide for significant local employment. Additionally, the terrain, climate and vegetation of these areas suggest that they receive little recreational use, and thus attract few visitors.

Alternative C, with its emphasis on wildlife management, water supply, and recreation site development would have the greatest potential of all the Management Alternatives for increasing tourism and travel. However, as noted above, the type of recreation occurring in this area is not job intensive, and the current tourist industry could likely serve more tourists than it currently does with little expansion in its labor force.

Alternative B, with emphasis on increased timber management, also may create more jobs than reported in the timber production statistics. If tree planting and precommercial thinning programs are instituted, additional jobs will become available.

One recurrent problem in employment in the Local Zone and in the Two-County Zone is the seasonality of employment. Unemployment is very high during the winter months (11.6% in January 1974) and lower during the summer (6.9% in July 1974) (9). All of the major industries of the two-county area, forestry, agriculture, tourism, fishing and construction, employ more people in the summer than they do in the winter. The area would greatly benefit from a non-seasonal or counter-seasonal industry, although none seems likely.

There are other economic activities which return money to the two-county area. They include federal revenue sharing to local cities and counties, enabling them to add employees to county and municipal work forces either on permanent or temporary basis (49). In fiscal year 1975, the Two-County Zone of Lincoln and Tillamook counties' governments received $882,787 in federal revenue sharing funds (43). In 1971, there were 368 federal employees in the two-county area, creating a payroll of $1,962,000 (43).

The two-county area receives less than the national per capita average in federal expenditures (43). There are around 400 State employees in the two-county area (43).

Retires in Lincoln and Tillamook counties also make a contribution to the local economy. In 1971, they received 10.5 million dollars in Social Security payments. To this figure should be added numerous other types of retirement income, although whether this equals or exceeds the amount of Social Security payments is not known. Also adjustments must be added to take into account the increased amount of Social Security payments since 1971, and the increase in number of those over 65 years living in the two-county area. It seems reasonable to consider at least a 25 million dollar annual contribution to the local economy from retirees.

State and National Economies

The Hebo Planning Unit is tied to the Oregon and the national economies by its ability to supply wood products. It is not populous enough to form a major market for consumer goods and, although it is part of a nationally recognized recreation area (the Oregon Coast), its recreational ties are largely regional.

Its annual timber harvest of 78 million board feet (as projected by Management Alternative Present Conditions) comprises less than one percent of the Oregon annual timber harvest of around 10 billion board feet (40).

The impact of the different Management Alternatives on Oregon and on the national economy would be minimal and virtually impossible to detect, particularly if increased timber harvest in other areas compensates for reduction on the Planning Unit (Management Alternatives A and C) or reduced harvest elsewhere provides sufficient demand for the increased cut under Management Alternative B.

The condition of the national economy, particulary in its housing construction segment, will have substantial impact on the market for the wood products of the Planning Unit. However, estimation of national trends with any degree of certainty is outside the scope of this report.

Local Government

Management Alternatives will have indirect impact in the Local Zone of Influence on three county governments (Lincoln, Tillamook and Yamhill) and on the incorporated city governments of Tillamook, Lincoln City, Sheridan, Willamina, Siletz, and Depoe Bay. These effects will come from the various changes in the local economy, patterns of development, population increases and fluctuations, and other social patterns that result in the problems that local governments confront and attempt to resolve.

In Tillamook and Lincoln counties, 1,524 people were employed by local governments, and about half of these are involved in education (18, 22). In the Regional Zone of Influence, 41,782 are employed by county and municipal governments (82).

In general (and the generality of the statement must be emphasized), the problems associated with economic and population growth are more welcome than the problems created by declining or stagnant economies and dwindling populations. Growth contributes economic resources to local governments to help solve the problems it creates; declining economies further reduce the economic and social resources for solving that set of problems.

Thus, local government officials and staff would tend to favor Alternative B or Present Conditions which provide the greatest stimulus to the local economy. Alternatives A and C would tend to intensify the unemployment problem in the local area, with its attendant pressures on local government.

In the Regional Zone of Influence, the effect on local governments of the different Management Alternatives will be more diffuse and less easily traced, with one exception. County governments whose counties encompass National Forest land receive payment from the Forest Service for timber sales according to the relative amount of Forest Service land in that county. As a result, increased or reduced timber harvest will affect the size of those direct payments to county governments. (Twenty-five percent is earmarked for education, the remainder officially designated for highways.) The Siuslaw National Forest has land in eight Oregon counties. Four of these, Benton, Lincoln, Tillamook and Yamhill) are in the Regional Zone of Influence and have significnat amounts of Forest Service land.

Under the Present Conditions Management Alternative, a timber harvest of 78,000,000 board feet per year is projected. At a sale value of $128 per thousand board feet, of which the counties receive 25%, this represents an income of $2,496,000 per year to the eight counties having Siuslaw National Forest land. The four counties with significant Siuslaw N.F. land would receive about half of this amount, or $1,250,000 per year. (These four counties had a total annual revenue of $11,326,000 in 1971-72 fiscal year (78). Thus, in an indirect fashion, timber sales in the Planning Unit can be thought of as contributing to roughly a tenth of the annual revenues of these four counties in the Regional Zone.)

Reduced timber harvest without compensatory harvest elsewhere in the Siuslaw National Forest would result in a loss of $576,000 (Management Alternative A), or $353,000 (Management Alternative C) to the eight counties (compared to the projected amount Present Conditions). This would represent a loss of roughly $275,000 (Management Alternative A), or $175,000 (Management Alternative C) to the four counties in the Regional Zone of Influence which have significant Siuslaw National Forest acreage (Benton, Lincoln, Tillamook, and Yamhill). Management Alternative B, with its increased projected timber harvest, represents an increase of $160,000 per year to the eight Siuslaw National Forest counties, or roughly $80,000 to the four counties discussed in the Regional Zone of Influence.

These figures must be interpreted with caution, as payments from the Forest Service to counties are based on the harvest on the entire forest in a particular year, but they do give some indication as to the fiscal effects on local county government in the Regional Zone. Otherwise, these governments will share in the other indirect effects of economic and population changes as do municipal governments.

State and National Government

State and federal agencies are active in the area of the Local Zone of Influence. Federal agencies such as the Forest Service, the Bureau of Land Management, and the Bureau of Sports Fisheries and Wildlife, are actively involved in the management of forest and other natural resources. The Army Corps of Engineers and the Coast Guard are involved in nearby marine and estural facilities and services. The Soil Conservation Service and the Agricultural Stabilization and Conservation Service provide service, information and support for farmers. Local residents receive direct social services and economic support from the Social Security Administration, Public Health Service, and the Veterans Administration. Much of the area's electrical power comes from the Bonneville Power Administration; the Post Office is essential in business and personal communication, and the Internal Revenue Service makes its presence known. The Armed Forces are the first employers for many high school graduates in the area, and the Air Force maintains one of Oregon's few active military stations in its Mt. Hebo Air Force Station, a radar and other electronics installation. In 1970, a total of 133 dependents and servicemen lived on the station (14).

Other programs are more indirect, but major contributors to life in this area. The Department of Transportation's highway construction funds and the Department of Housing and Urban Development planning and civic improvement grants affect life in the Local Zone.

State government provides many similar services. The Forestry Department manages sizeable holdings just north of the Planning Unit. The Wildlife Commission actively manages the important fish and game populations in the area. The Highway Division is engaged in both highways and in the administration of the numerous State Parks in the area. The Department of Environmental Quality and the Land Conservation and Development Commission are involved with the problems of pollution and land use. A variety of social services are provided by the state through the Children Services, Corrections, Employment, Health, Mental Health, Public Welfare, and Vocational Rehabilitation Divisions of the Department of Human Resources. Game, traffic, and other state laws are enforced by the State Police. Through the Cooperative Extension Service and the Division of Continuing Education, university research findings, university courses, and a structure for community participation through study groups and 4-H clubs are provided.

In addition to the services provided by the various state and federal agencies to the Local Zone, their employees reside there and contribute to the local economy and local community life. In the two-county zone of Lincoln and Tillamook counties, there were 381 federal employees in 1973, with an annual payroll of $3,069,000 (43). In the same year, there were 386 state employees (43). In the Regional Zone, there were 47,801 state and federal employees in 1970 (82).

The Local Zone of Influence is represented in State government by one of the 30 State Senators; it being entirely within the Second State Senate District. Parts of the Third and the 38th State Representative Districts encompass the Local Zone of Influence, and thus its residents may vote for one of two of the 60 State Representatives.

The Regional Zone reflects far greater political power in the State Legislature. Eighteen of the 30 State Senators and 36 of the 60 State Legislators are from the Regional Zone of Influence (40).

Nationally, people in the Regional Zone of Influence may vote for one of all four of Oregon's Representatives, though two Congressional Districts cover most of the Regional Zone. With the exception of Representative Ullman of Eastern Oregon, none of the Oregon Congressional Delegation has sufficient seniority to be a nationally significant political leader in the House.

The Local Zone, as is typical of rural areas, is politically more conservative than the Regional Zone; through the Regional Zone would rank as "middle-of-the-road" in terms of the national political spectrum.

Educational Services

Selection of one Management Alternative over the others will have little effect on the educational systems of either the Local Zone or the Regional Zone. What little effect there is would come through the increase or reduction of the Forest payments to counties, 25% of which is earmarked for education. (See "Local Government" section of this report.) The effect on school age populations of the various Management Alternatives is difficult to judge in terms of its actual magnitude. Alternative B would tend to increase the number of school-age children, Alternatives A and C to reduce them, but the numbers involved in these changes are very small compared to possible changes resulting from other economic changes in the Local Zone, changes in typical family sizes, or other unforeseen changes.

School enrollments in 1970 were 10,991 for the Two-County Zone of Lincoln and Tillamook counties, and 412,005 for the Regional Zone of Influence (82). There are no colleges or universities in the Local Zone, though the Regional Zone contains the majority of Oregon's facilities for higher education. Over 95% of the enrollment (after kindergarten) is in public school and public colleges and universities in the Regional Zone, and the pattern is repeated in the Local Zone, although there are church-related parochial schools in Tillamook (82).

Family Life

The very slightly varying effects of the Management Alternatives on family life in both the Regional and the Local Zone will be impossible to discern. In general, we know that steady employment and higher incomes are related to marital stability, and that liberalized divorce laws and more urban life-styles are related to higher divorce rates. However, it is not possible to specify what effect, if any, the different management alternatives will have on family life in general. No major effects are predicted on the overall patterns of family life in both the Local and Regional Zone.

What happens in the planning unit will affect specific families, of course. Families use the forest for recreation; they may depend on the earnings of a breadwinner whose job is related to forest activities; and they live in communities which are affected by forest management plans. However, the overall net effect on family life, *per se*, of any Management Alternative, cannot be determined.

Voluntary Associations

Voluntary associations are those organizations which are formed and maintained to permit their members to pursue some common interest. Their members are, for the most part, unpaid volunteers. They range in nature from youth groups and service clubs to groups which are quite active in economic and political activities, such as trade associations and labor unions.

(The following discussion is not intended to be a complete list of voluntary associations (which number in the hundreds, even in the Local Zone). It is intended to indicate the types of organizations in both Zones, how they would be affected by the Management Alternatives, and what their general reaction to different proposals would be.)

Youth Groups: Groups such as the 4-H Clubs, the various Scout groups, the YMCA-YWCA, and others are active in both the Local and Regional Zones. Some of these groups, particularly the Scouts, actively use the forest as a recreation and educational site, and provide some services in some areas. The Boy Scouts have a permanent camp (Camp Meriwether) in the Planning Unit, and other groups' permanent camps (Camp Winema, Camp Clark, Camp Westwind) are nearby. Variation in Management Alternatives will not affect these camps, though Alternative B (with its increased timber harvest) will place greater constraints on the use of the forest for nature study and other outdoor activities. Alternative A and C, with increased recreational use may create greater demand for the local Explorer Scouts search units as more recreationists in the area will likely increase the number who encounter emergencies. Alternative A, formally designating some areas as Wilderness Study Areas may draw some youth groups to those areas for nature study, although those activities can be carried out in other more accessible sites in the Planning Unit.

Service Clubs: Service, social and fraternal clubs such as the Lions, Rotary, Moose, veterans organizations and women's clubs, play a major part in the social life of towns in the Local Zone. In the Regional Zone, with its more urban and suburban nature, these groups are relatively less important. The effects of the vaious Management Alternatives on them will be indirect and hard to identify. The forest does serve as a setting for some of the activities of some groups on an infrequent basis, and as an occasional source of program material for meetings.

Labor Unions: The labor unions in the Local Zone of Influence are mainly associated with wood products industry. They and their members would benefit most from Alternative B and be hurt by Alternatives A and C. If they participate in the planning process, it will likely be to encourage either Management Alternative B or Present Conditions.

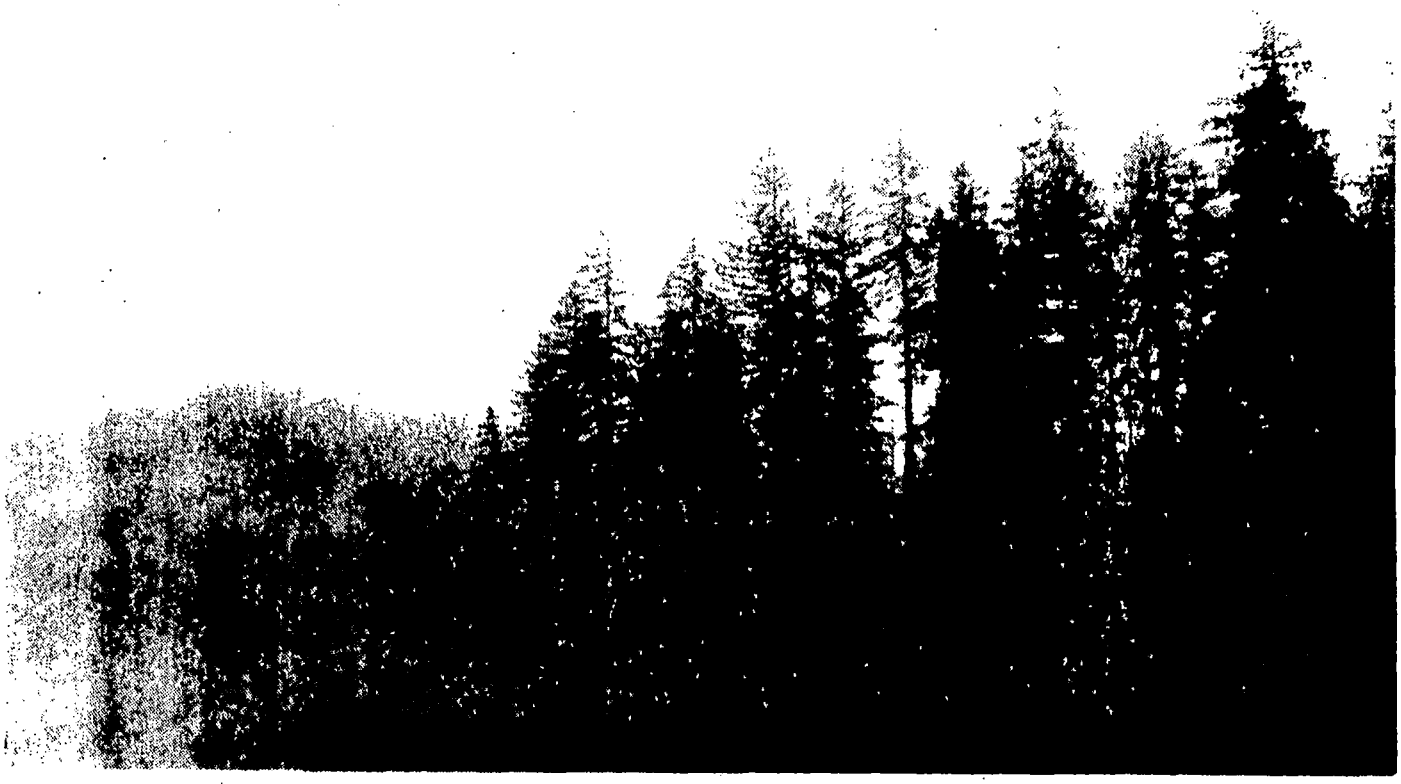
In the Regional Zone of Influence, a much wider range of industries are represented by labor unions. They and their membership will not be affected directly by different management alternatives, though support could be given to the alternatives favored by unions in the Local Zone.

Trade Associations: Businesses are often organized according to their location (such as Chambers of Commerce or The Associated Oregon Industires) or by their industry (such as The Western Wood Products Association, Oregon Coast Association (travel industry) or Farm Bureau). They will be affected in fairly obvious ways by the ways that the management alternatives affect the local and regional economy. They will typically prefer the management alternatives which promise the greatest economic activity in the near future (Alternatives B and Present Conditions). In some cases, trade associations may support alternatives which seem not to be of direct benefit to them, but which have symbolic value to them, or to lend support to a potential future ally.

Recreational Assocations: Some of these groups, such as gun clubs and 4-wheel drive vehicle clubs, exist to give members the physical facilities (if needed) and social organization (meets, events, get-togethers) for the recreational activity. Others, such as Ducks Unlimited and Trout Unlimited, which focus on more individual recreation, exist to provide social settings to meet others of similar recreation and to work to preserve or enhance the specific recreational resource they use. Both of these types of recreational associations will be affected by Management Alternatives. (See "Recreation and Leisure") It seems obvious that hunting interest groups would favor conditions leading to increased game populations (Alternatives B and C) and fishing groups would favor increased fish habitat. However, the game harvested is not the sole satisfaction of hunting and fishing (particularly for those in these recreation groups who tend to be more "purist" than other sportsmen) and concerns about land use and visual quality may enter their position.

Conservation Groups: These groups, which share some interests and activities with other recreation groups, tend toward more appreciative and less consumptive recreational use of the forest and related areas (24). They tend to have both actual and proportionally greater membership in the Regional Zone than in the Local Zone. They include associations such as The Audubon Society, The Sierra Club, and others. They and their membership will tend to favor Management Alternatives which enhance water quality, soil stability, non-game species populations, and foot trail construction. Thus, they will tend to favor Alternative C and Alternative A. (Some conservation groups and their members place a high intrinsic value on preservation of natural settings. The value of preserving an area as it is stated in terms of the inherent value of wilderness, the diminshing number of such areas, and the need to pass on, untouched, such areas to future generations. Thus, preservation of an area may have symbolic value, and thus be desired by them though little recreational or other human use occurs on it. These groups will favor Alternative A.)

Thus, various voluntary associations will be affected in varying degrees and in both positive and negative ways by the various Management Alternatives. In many cases, this influence is obvious and will be the motivation for appropriate participation in the planning process.



Emergency Services

In the local zone, ten fire departments provide fire protection and related emergency services. They are located at Grand Ronde, Willamina, Sheridan, Lincoln City, Beaver, Cloverdale, Pacific City, Tillamook, Depoe Bay, Gleneden Beach, and Siletz. (All, except for the Tillamook department, are purely volunteer departments.) Of these ten towns and communities, four (Willamina, Sheridan, Lincoln City and Tillamook) have their own police department. The other areas are served by the Sheriff's Office of their respective countes, or by the Oregon State Police who have posts in each county seat. Private ambulance service is available from Sheridan, Lincoln City, and Tillamook; and a volunteer ambulance service is available in Cloverdale and Pacific City areas. Lincoln City and Tillamook have hospitals; other parts of the local zone have access to hospitals at Newport, Toledo, McMinnville, and Dallas. The Oregon National Guard and the Red Cross, which provide assistance during major emergencies, have facilities at Tillamook and the county seats of other counties (Newport, McMinnville, and Dallas). Search and Rescue activities are coordinated by the Sheriff's Offices. The U.S. Coast Guard at Garibaldi and Depoe Bay provides assistance in marine emergencies. The U.S. Forest Service at Hebo and the Oregon Forestry Department coordinate forest fire fighting activities (62, 63, 64, 65).

The Local Zone's natural disasters are typically tied to weather, which may result in local flooding, high winds, and landslides. (Tillamook is subject to frequent flooding -- apparently linked to the silting of Tillamook Bay which slows the runoff of heavy rains. However, most of Tillamook Bay watershed is outside the Planning Unit, so management of the Planning Unit should not affect this major recurrent natural emergency in the Local Zone. The Siletz, Salmon, Nestucca, and Yamhill watersheds have not been as subject to property damaging floods as the Tillamook area.)

Since the Management Alternatives on the Planning Unit do not indicate a deterioration of soil stability or water retention qualities, none of the alternatives will increase the chances of natural disaster. The slightly increased recreational use projected under Management Alternative C will likely involve slightly more activity by emergency health care services, law enforcement agencies, and search and rescue units. It should not place undue burdens on these groups, and, inasmuch as these groups are volunteer groups, the slight increase in activity may serve to increase their morale and sense of purpose.

Increased timber harvest and woods work related to Alternative B will tend to increase the demand for emergency services to a slight extent over Present Conditions, as these types of work, despite safety regulations, are physically dangerous.

Emergency services in the Regional Zone of Influence tend to be better equipped, more extensive, and staffed by a much larger portion of paid personnel, depend less on volunteers. Emergency services in the Regional Zone provide a backup for services in the Local Zone, and are generally adequate in this role. None of the Management Alternatives will affect the emergency services of the Regional Zone of Influence in a consistent or predictable way.

Religious Organizations

The major Protestant demoninations are well represented in both the Regional and Local Zone of Influence. Roman Catholic churches and schools are in both areas; though only the Regional Zone has Synagogues. Both zones have a significant number of non-demoninational community churches and smaller, evangelistic sects.

The effect of the different Management Alernatives on Religion in the Local Zone will be indirect. The principal demoninations will generally benefit from the economic well-being of the community; smaller sects tend to grow under conditions of economic hardship. In either case, the effects will be transmitted indirectly through the economy, and will be subject to many other influences.

In the Regional Zone, religion will be most affected by the Management Alternatives through the use of the Planning Unit area for recreation and social activities. Permanent camps of some demoninations and the use of public recreation sites for retreats and camps might be affected by deterioration of visual quality in the area, or by other changes in the immediate environment. Except for obvious changes in specific instances, (such as clearcutting an area adjacent to a camp or campground), the different Management Alternatives will have no effect on religious activities in the Regional Zone.

Personal and Mass Communication

Communication permits the exchange of information and opinions, and transmits entertainment. We can divide in into "personal" two-way exchanges, and the "mass media" which is typically a one-way flow.

"Personal communication" would include face-to-face conversations, telephone conversations, and messages sent and received through the postal service. In the Local Zone, there are 17 post offices and branch post offices. Some of these are quite small, and the U.S. Post Office has proposed closing some of them (e.g., the Post Office at Otis). Economic activity in an area helps maintain the justification for a post office, and thus the Management Alternatives would affect local postal service indirectly.

Telephone service is a necessity for normal modern social interaction. Sixty-seven percent of the year-round housing units in Lincoln and Tillamook Counties have telephone service, 87% of the homes in the Regional Zone have telephones (79). (This discrepancey is not as extreme as it might seem - many of the homes in the two-county Zone are second homes -- a place where people go to get away from things like telephones. Different Management Alternatives will have minimal impact on telephone service, save via economic activity which would permit slightly more or fewer people to afford telephones.

"Mass communication media" include newspapers, radio, television, and magazines. The Local Zone of Influence has two newspapers, the Headlight-Herald in Tillamook and the News Guard in Lincoln City. Both are weekly papers and cover local news. The Local Zone is reached by the daily newspapers from Salem and Portland.

The western part of the Local Zone receives two local radio AM stations, KTIL in Tillamook and KBCH in Lincoln City. The Local Zone west of the Coast Range receives little FM radio, and must generally depend on cable facilities for good television reception. In the Regional Zone (and in the eastern part of the Local Zone), there are numerous television channels, FM stations, and AM stations, offering a wide variety of programing. Ninety-three percent of the homes in Local Zone and 95% of homes in the Regional Zone have television sets (79).

The proposed Management Alternatives will have little to no effect on the mass media of either the Local or the Regional Zone. Such effects that may occur will be through changes in the population or economy, and as such will be more pronounced in the Local Zone.

Health Care System

The health care system in the Local Zone of Influence is typical of rural areas. It has two small hospitals in Tillamook and Lincoln City with a total of 83 beds (16, 18). In the Two-County Zone of Lincoln and Tillamook counties, there are 5 small hospitals with a total of 195 beds. In 1970, this two-county area had 34 medical doctors, 18 dentists, 125 nurses, and 34 pharmacists (16, 18). It does not have the population to support the large number of specialists and special treatment facilities which are located in the urban areas of Portland and Salem in the Regional Zone. Despite a lower than state average number of health practitioners per capita, the Oregon State Board of Health regards the Local Zone health facilities as adequate to meet the health needs of the resident and the summer population (16, 17, 18, 19). (See 16, 17, 18, 19 for additional statistical information on health in the four counties related to the Local Zone of Influence.)

The health care system of the Regional Zone is one of the best in the county, though it, like systems nationally, has deficiencies in preventive medicine and in health care service to the poor.

The different Management Alternatives on the Planning Unit will have minimal impact on the health care system, though what effects there are will be felt more at the local level. Economic activity in the area helps support the health practitioners and health facilities, while forest-related injuries would increase with increased work in the woods.

Social Welfare System

The social welfare system consists of those organizations and other social patterns intended to help those who are unable to obtain a minimal standard of living because of their misfortune or lack of ability. Traditionally, these services were provided by extended family systems, by religious and charitable organizations, by charitable individuals, and by local governments. In recent years, the social welfare functions have been assumed by state and federal governments; and have expanded to assist others than the absolutely destitute. (In recent years, civic assistance has been extended to many who are temporarily unemployed (through unemployment insurance programs), to the children of low income homes (Aid to Dependent Children programs), and to low income households and individuals through such programs as the "Food Stamp" program. The philosophy behind these newer programs is to lend support to people before they reach destitution, and to break self-perpetuating inter-generational cycles of poverty.)

In both the Local and the Regional Zone of Influence, the state and federal programs are the most extensive. Some representative statistics for the Two-County Zone of Lincoln and Tillamook counties are provided here.

TABLE X

SELECTED SOCIAL WELFARE STATISTICS--LINCOLN AND TILLAMOOK COUNTIES

1975 Population (11)	46,150
November 1975 Labor Force (49)	19,770
November 1975 Unemployed (49)	2,550
Old Age Assistance Cases (August 1972) (16, 18)	153
Aid to the Blind and Disabled (August 1972) (16, 18)	133
Aid to Dependent Children (August 1972) (16, 18)	941
ADC-UN Cases (aid to dependent children in household with an unemployed male head) (November 1975) (45)	116
"Food Stamp" Program (March 1976) (53)	
Public Assistance - Households and single individuals	685
- Total individuals	1,832
Low Income - Households and single individuals	1,085
- Total individuals	2,730
Both Types - Households and single individuals	1,770
- Total individuals	4,560

These figures are intended only to give some indication of the magnitude of various welfare participation. These participation rates are likely several percentage points higher in the Two-County Zone than they are in the larger Regional Zone. The Local Zone (and Two-County area) has high seasonal unemployment in the winter, a less thriving year-round economy, and a greater proportion of elderly people.

Primarily through important impacts on the number of employed person, the different Management Alternatives will have impact on the social welfare picture in the Local and the Regional Zone of Influence. The loss of 405 jobs or 247 jobs in timber related employment is projected under Alternatives A and C. (An increase of 113 timber related jobs is projected under Alternative B.)

In the short run, these impacts can be absorbed by various unemployment insurance programs in both Local and Regional settings. In the longer run, these formerly employed would migrate to areas with more jobs, or find work in other types of work (though those opportunities are and will be limited in the Local Zone). Generally improving economic conditions (or changes in eligibility rules and administration) will tend to reduce the numbers receiving "food stamps"; Alternatives A and C would tend to increase the numbers in the program. (It should also be noted that many of these timber-related jobs are seasonal. Increased employment in the summer will do little to reduce the size of the welfare problem in the winter, and, in fact, might even serve to intensify the problem in the Local Zone during the winter.)

However, other welfare programs, including General Assistance, Aid to the Disabled, and Aid to Dependent Children, will be affected little by changes in the employment picture. Most of these recipients are clearly outside the labor force and will be little affected by improving or deteriorating employment pictures.

Law Enforcement

On both the Regional and Local level, crime statistics and law enforcement activity reflects the known relationship between population, economic conditions and crime. Crime rates and law enforcement activity are highest in urban areas, lowest in rural areas. They are also highest during those times of the year when there are the most people in a locality.

In the Regional Zone of Influence, the highest rates of crime are found in Portland and Multnomah County. This county accounts for over half the violent crime in the State. Other urban centers in the region have raised amounts of violent and property crime (29).

Despite their small populations, various factors cause the counties in the Two-County Zone to have relatively high rates of violent crime (ranking 3rd and 4th in the region - 9 and 13 in the State). In total major "index" crime, Lincoln and Tillamoon counties rank 7th and 8th, respectively, in the region, and 14th and 4th in the State (29).

In response to growing populations, increasing proportions of the population in the crime-prone teen and young adult years, relatively fewer jobs for unskilled workers, changes in the way people interact, the crime rate (as well as the actual amount) are expected to increase in the future.

TABLE XI

CRIMES AND POLICE ACTIVITY BY MONTH

	Major Crimes Oregon	Difference From Mean	Major Crimes Tillamook S.O.	Difference From Mean	All Activities Tillamook S.O	Diff. From Mean
January	11,004	-716	56	8	173	-13
February	11,040	-680	43	- 5	131	-55
March	11,003	-717	40	- 8	162	-24
April	11,047	-673	57	9	169	-17
May	11,063	-657	59	11	241	55
June	11,225	-495	63	15	178	- 8
July	12,246	526	60	12	244	58
August	12,561	844	62	14	249	63
September	11,439	-281	17	-31	215	29
October	12,539	819	49	1	178	- 8
November	12,641	921	30	-18	153	-33
December	12,839	1,119	40	- 8	139	-47
Total	140,647		576		2,232	
Average Month	11,720		48		186	

(Source: 29, 77)

Informed projections predict a 30% increase in rates of major crimes between 1975 and 1980 (29). Combined with a feasible 10% increase in population, there will be substantially more crime in the future in both the Regional Zone of Influence and the Local Zone.

In looking at the crime statistics of the Tillamook County Sheriff's Department, which are most typical of the types of law enforcement activity in the Local Zone, we see a pronounced seasonal pattern to crime and complants. (The Tillamook County Sheriff's Office handles the majority of law enforcement in that county (30). This pattern holds for both major crime and less major complaints. The summer is the season of greatest activity for this agency. Despite the greater unemployment in the local area during the winter, reported criminal activity is lower. Compared to the major crime activity in Oregon, which shows a small increase from mid-summer until the end of the year, the Local Zone demonstrates higher than average rates from May through September.

From this it is reasonable to relate the increase in law enforcement activity to the increased number of people in the counties during those months. (See Periodic Fluctuations.) It does not follow that the increase is due to crime committed by people from outside the Local Zone. But increased numbers of people create greater likelihood of abrasive contacts, tourists present greater opportunity for crimes against property, and the parties and outdoor activities of the summer give greater cause for citizen complaints.

In the final analysis, the crime and law enforcement pattern is too complex to confidently predict the effects of different management alternatives. However, the slightly increased recreational use and seasonal population, and reduced numbers of jobs for the unskilled under Management Alternatives A and C, both would contribute to more of an increase in crime than would management under Present Conditions or Alternative B. None of the alternatives will have a traceable effect of crime in the Regional Zone.

The Planning Area does pose a few special potential problems for law enforcement and these should be taken into consideration, though they seem under control at the present time. In conversation with Tillamook County Sheriff's Office personnel, it was learned that the Sand Lake Dunes area by off-road vehicle recreationalists was a problem at one time, primarily due to alcoholic consumption. Problems there have been minimized by more frequent patrols by a uniformed Sheriff's Deputy.

The large number of seasonal homes along the coast in south Tillamook County are attractive targets for vandals and burglars, as are seasonal homes anyplace. Here, an active patrol by Explorer Scouts in a radio-equipped vehicle is effective in minimizing property loss. This Vacation Home Patrol consists of 25 - 30 high school age youth, and maintains surveilance over about 500 homes, of which about 90% are vacant during parts of the year.

Energy and Utilities

The various Management Alternatives will have no effect on the energy delivery systems and on the public utilities of the Regional and the Local Zone.

The Regional Zone produces little energy, though a great amount of electrical power is produced in hydro-electric installations along the Columbia River upstream from the zone. Several oil-fired electrical generating plants are located in the Zone, but this fuel is imported from other regions. A major thermo-nuclear electrical generating plant is located just outside the area. This part of the country is unusual in the prevalent use of electricity for the heating of dwellings. In Lincoln and Tillamook counties, about half of the homes are heated by electricity (16, 18). This is similar to home heating patterns in the Regional Zone.

As is the nation, the Regional and Local Zone is greatly dependent on petroleum products. Another dramatic gasoline shortage such as occurred during the winter of 1973-74, would greatly affect the daily routines of people; and would greatly reduce the amount of tourism and recreational visits in the Local Zone.

Less than a tenth of the homes in the Local Zone (and fewer in the Regional Zone) are heated by wood stoves (16, 18). However, the use of wood as fuel, some of it from the Hebo Planning Unit, might increase in importance if the cost of more convenient fuels increases.

Electrical service is provided by collection of private and public utilities. Several telephone companies and cooperatives provide telephone service. Eighty-seven percent of Regional Zone homes and 67% of the homes in Lincoln and Tillamook counties have telephone service (79). (The difference is partly due to the large proportion of seasonal homes in the two-county zone.)

Water and sewerage systems are found in communities. In 1970, 85% of the homes in the Regional Zone and 81% of the homes in the two-county zone of Lincoln and Tillamook counties had their water supplied by a public (or private) water system (79). Reflecting its more rural character, 45% of the households in the Two-County Zone, as compared to 65% of the homes in the Regional Zone, were connected to sewerage systems (79). (This percentage is likely increase in the last five years as federal funds have become available for smaller communities to use in installing sewage collecting and treatment facilities.) The limitations of current water systems, and even more commonly, the inadequacies of sewer systems, are major limiting factors on the development of numerous communities in the Local Zone (41). Several municipal watersheds are located on the Planning Unit, but as no deterioration in water quality or quantity is projected under any Management Alternative, there should be no negative impacts to communities. The increase in water quality and quantity projected under Alternatives A and C will likely not directly benefit any particular community.

Housing

The Regional Zone of Influence, with its major metropolitan areas, and Lincoln and Tillamook Counties, with their rural character and small towns, are remarkably similar in many of the statistics describing their populations' housing.

The two significant differences are to be found in the percent which are renter and owner occupied, and in the percent of vacancy. The first of these (renter-owner occupied precent) is consistent with what is known of urban and rural residential patterns. Rental housing units, particularly apartments, are more frequent in the more densely settled urban regions.

The second significant difference between the Regional and Local residential patterns is seen in the percent vacant - with a fifth of Local Zone residences vacant, compared to 5% in the Region. This difference is almost entirely due to the presence of large numbers of summer homes in the Two-County Zone. When the rate of "For Sale" and "For Rent" housing units vis a vis the number of occupied units are compared, we find nearly identical vacancy rates. Sale units which have been on the market less than six months and rental units which have been vacant less than two months were used to designate the most commercially attractive units.

TABLE XII

CHARACTERISTICS OF HOUSING

	Lincoln and Tillamook Co.	%	Regional Zone of Influence	%
Total, year-round housing units	19,558	100.0	493,901	100.0
Lacking some or all plumbing facilities	666	3.4	14,042	2.8
Vacant (1970)	4,063	20.8	25,583	5.2
Built before 1939	6,474	33.1	176,720	35.8
Total year-round housing units, Local Zone (14, 47)	10,631	54.4		
Total, all occupied units	14,495	100.0	476,318	100.0
Owner occupied	11,153	72.0	306,964	65.7
Renter occupied	4,342	28.0	160,354	34.3
For sale - vacant less than 6 months	69	0.4	2,439	0.5
For rent - vacant less than 2 months	293	1.9	9,047	1.9
Overcrowded (more than one person per room)	864	5.6	20,646	4.4

(Source: 79)

Seasonal Homes. The vast majority of seasonal, recreational homes in the Regional Zone of Influence are found in the Two-County Zone of Lincoln and Tillamook counties. (Clackamas County may also have about 2,000 seasonal homes in the Mt. Hood vicinity.)

Various estimates of the number of seasonal homes in the two-county area can be found. After examining the estimates and raw data (43, 68, 79), the best estimates were felt to be those compiled by the County Planning Office in Lincoln County (35) and the Clatsop-Tillamook Intergovernmental Council (14). These yield a figure of 4,600 seasonal homes in Lincoln and Tillamook counties, of which 2,775 (60%) are located in the Local Zone of Influence.

As such, they comprise 23.5% of the 19,558 year-round housing units in the two-county area, and 24.4% of the 10,631 year-round housing units in the Local Zone of Influence (14, 47).

These homes impose certain demands for additional service on local jurisdiction. In addition to the periodic demands that vacation use places on community services simply by adding more people to the area (waste disposal, water, traffic congestion, etc.), seasonal homes provide attractive targets for burglary and vandalism. This problem is partly met in the South Tillamook County area by a Vacation Home Patrol provided by Explorer Scouts.

It is not easy to evaluate the net costs or benefits of the seasonal homes in the Local Zone. The only estimate of economic benefits suggest that second homes constructed by local firms provide an economic income multiplier of around 1.90. However, many of the second homes along the coast have not been constructed recently (43). Vacationeers do provide a market for some non-durable goods, but, because of the proximity to their regular homes in the Willamette Valley, they bring a significant portion of their food with them from other parts of the State. They rarely purchase durable goods in coastal communities - appliances and furniture are likely "hand-me-downs" from the principal home in the Valley. The vacationeers do provide a market for various services such as restaurants, fishing charters, etc. But, given the very casual "do-it-yourself" vacation style of the Oregon Coast, these services are much less in demand and at a less expensive level than that associated with most vacation and second home regions.

However, vacationeers do provide a social vitality and an income that may spell the difference between survival and abandonment for smaller communities. Their values are not too inconsistent with year-round residents of these communities, and these homes may be used in the future as retirement homes.

Mobile Homes. Attention should not be lost regarding the importance of mobile homes to the housing picture in the Two-County Zone. Providing over 90% of the new housing under $15,000 (14), mobile homes comprise about 5% of the housing units in the Two-County Zone. More dramatically, 48% of all housing starts in Lincoln County in 1972 to 1974 consisted of mobile homes (47). Some of these are being used as second homes. In Tillamook County, 82% of mobile homes are used as year-round residences, suggesting a seasonal to year-round proportion similar to that of conventional homes.

The different management alternatives on the Planning Unit will have little effect on housing in the Local Zone. Increased wood fiber output as in Management Alternative B will create more jobs, and more jobs might result in increased in-migration and increased housing. However, the existing pool of unemployed who could take these jobs, plus the ease of commuting from outside the Local Zone, will probably not create a significant increase in housing starts. On the other hand, improvement, as in Management Alternative C, of scenic and recreational values will increase the attractiveness of the area to recreationalists and retirees relative to other areas.

This effect could be quickly countered by a dramatic increase in the cost of gasoline for transportation (which would also increase the cost of commuting) or by other policies - local or regional. But, as long as gasoline prices increase at moderate rates, the convenience of highway transportation will permit woods workers to live in a variety of places (putting little pressure on the housing market in the Local Zone) and will permit vacationeers to acquire and use seasonal homes.

The regional housing situation will be affected minimally by the management decisions of the Planning Unit. As it provdes only a part of the building supplies used in the region, and as wood products are only part of construction costs, and as mobile homes use less wood than conventional homes, the increase or decrease in wood fiber production on the Hebo Planning Unit, by itself, will have minimal effects on housing patterns in the Regional Zone or on a national basis.

Transportation

The personal transportation picture of both the Local Zone and the Regional Zone is dominated by the automobile. Eighty-seven percent of occupied housing units in both the Local Zone and the Regional Zone have at least one automobile available for use (79). Added to this figure should be the number of pickups and light trucks which are frequently used for personal transportation. Pickups and panel trucks appear to comprise about 20% of highway traffic in the Local Zone and in the more rural southern parts of the Regional Zone (47). The portion of housing units in the Local Zone with personal automotive transportation, if pickups are included, is undoubtedly higher than the 87% figure suggested by census data. The automobile or pickup is a necessity for normal life in all but the most urban settings - the lack of one prohibits the ease of movement over a wide area that Americans have come to take for granted.

The area - both the Local Zone and the Regional Zone - are tied to the automobile for travel, often over large distances, to work, to shopping, to visit friends and family, to recreation sites and for recreation. Its role has increased noticeably faster than population growth. In the Local Zone, average daily traffic at various locations increased by about 50 to 60% from 1962 to 1969, and another 10 to 15% between 1969 and 1974 (46). In the Regional Zone, traffic increases were more closely tied to growth of population, but again, traffic increased faster than population.

Traffic between the population centers of the Regional Zone to the Local Zone increased dramatically. The cross-Coast Range routes, particularly the better roads (i.e., Route 18) show an increase in average daily traffic from 4,500 to 7,100 (a 56% increase) between 1962 and 1974 at Valley Junction (46). This traffic does not represent only traffic going to the Coast for recreation, but ordinary business traffic and coastal residents traveling to valley centers to visit friends and family and for major shopping.

In addition to the importance of highways for personal transportation, they are economically essential to both the Local Zone and the Region. All wood products travel from the woods by truck, and most travels again by highway during their processing. Timber stands are no longer extensive or uniform enough to justify the expenses of logging railroads. The other major industry of the Local Zone - tourism - also is vitally tied to the highway system. Although there are airports for private and charter flights, and bus connections, all but a few visitors and seasonal home owners get to the Coast by private auto. Other recreationists use the increasing number of recreational vehicles as lodging at the recreational sites of the Coast. They, too, arrive by highways. Almost all consumer goods arrive at the Local Zone by truck.

All of these economically vital uses of highways are not without conflict. All roads in the zone are two-lane, with infrequent third passing lanes. They are also narrower than similar highways in the Willamette Valley.

The vacationeer's fear of "careening log trucks" and the logger's frustration with timorous dawdlers in recreational vehicles are real issues (23). Fortunately, the greatest use by recreationalists on a weekly basis occurs on the weekends when logging and woods products transportation are at their slowest, but both uses are definitely greatest in the summer, leading to congestion and resulting irritations.

In addition, the physical damage to light duty highways by heavy loads needs to be considered.

Of the Management Alternatives, Alternative B (with its increased highway activity related to increased wood fiber production) will impose the greatest strain on the highway system. (Factors which would greatly stimulate the amount of tourism would also strain the existing highway system. However, the increased revenue from either pattern would greatly help in improving the current road system.)

Travel in the Regional Zone is also focused on the automobile, through intra-city bus lines and scheduled air travel are found in the Salem and Portland areas. Management Alternatives on the Planning Unit will have no affect on transportation in the Regional Zone.

Recreation and Leisure

There is an important difference between "recreation" and "leisure." "Leisure" is generally defined as the time a person has away from work, biologically required activities, and home chores. "Recreation" is activity that occurs during leisure time, but it is physically active, usually away from the home, and often with other people. Thus, there are a number of popular leisure time activities, such as watching television, reading, visiting with friends and family, crafts and hobbies, and daydreaming, that are not usually regarded as recreational activities. Looked at in this light, recreational activities typically use only a very small part of the average person's leisure time.

Recreation, and particularly outdoor recreation, is only one of a number of things a person can do with his or her leisure time. Thus, the demand for recreation is not inflexible, and its increases or decreases in popularity are the partial result of factors other than the amount of leisure time, the amount of discretionary income, or the number of people.

However, recreation, and particularly outdoor recreation, is a relatively popular use of leisure time in both the Regional and the Local Zone, and the Planning Unit is tied to many of the popular recreational activities.

Common outdoor recreational activities in areas similar to the Local Zone include (in order of the number of activity days) camping, beach activities, hunting, pleasure driving, picnicking, boating, and fishing (23). Much of this activity is highly seasonal, particularly given the rainy winters in both zones. None of these major recreational activities are expensive at the time they are done (though they may involve significant earlier outlays). (See "Local Economy.") And all of these are minor uses of leisure time when compared to the time used in watching television, reading books and newspapers, and visiting.

Both the Regional and the Local Zone have excellent opportunities for leisure time use and recreation. The Planning Unit is, or is adjacent to, a principal site of outdoor recreation activities. It, and the Local Zone, provide a setting for all of the major outdoor recreational activities listed above, as well as some which are not commonly found elsewhere, such as dune vehicle driving at the Sand Lake site, and hang gliding at the Cape Kiwanda dunes.

As one would expect, there is a greater variety of leisure activities available in the metropolitan areas of the Regional Zone than there are in the more rural Local Zone. For example, a much wider selection of restuarants, museums, libraries, book stores, night clubs, race tracks, record stores, symphonic and rock concerts, professional sports meets, and FM radio stations are available in the heart of the Regional Zone than in the Local Zone. Residents of the Local Zone would note that they enjoy many non-commercial and less frantic leisure activities, but these are not totally absent in the heart of the Regional Zone.

In addition, most of the population of the Regional Zone is close to the Cascade Range, and thus have access to such outdoor recreation as cross-country and downhill skiing, snowmobiling, and to areas suitable for overnight backpacking trips. Climate and terrain essentially rule out these activities in the Coast Range in the Local Zone.

It is easier to estimate the impact of the Management Alternatives on outdoor recreation on the Planning Unit than it is to estimate their effect on all aspects of leisure time use. In the context of outdoor recreation on the Planning Unit, Alternative A is projected to have no effect on current patterns; Alternative B would probably increase hunter use and success, decrease angler use, and slightly decrease the amount of other recreational activities; and Alternative C would slightly increase hunter use and success, slightly decrease angler use, and generally increase other outdoor recreational uses.

The Management Alternatives would likely have divergent effects on the overall leisure opportunities. Alternatives A and C, through their reduction in the numbers of jobs, and the effect on the local economy, would tend also to reduce the number of leisure opportunities in the Local Zone. Alternative B, which would tend to reduce the outdoor recreational opportunities in the Regional Zone might tend to stimulate the local economy and local government enough to partially support an additional radio station, more volumes in the library, or some new outboard motors. The net effects are impossible to determine.

There are conflicts associated with outdoor recreation in the Local Zone. Local residents complain of crowding and over-use of hunting and fishing sites, and of crowding on bays and clamming areas (23). This will be a continuing and intensifying problem as long as recreational pressure grows in the Regional Zone.

Other conflicts are apparently restricted to particular uses, and can be somewhat solved by segregating recreationalists. Thus, the Sand Lake site isolates dune machines from those who object to their noise and activities. Trail bikes and hiking trails pose a similar problem.

Some other conflicts hinge on the non-recreational use of the land. For example, increased timber cutting, as in Alternative B, will reduce the population of rarer wildlife that recreationalists who study wildlife enjoy, while increasing the population of those game species which are sought by hunters.

Land Use Patterns

Land use patterns in the Local Zone are largely determined by the terrain. The vast majority of the land is too steep for agriculture and is in commercial forest. Only in the flood plains and alluvial terraces of the Siletz, Nestucca and Tillamook Bay drainages is commercial agriculture attempted on the west side of the Coast Range. Crop farming and grazing are practiced in the Yamhill drainage on the east side. With the exception of Lincoln City and Depoe Bay, the Local Zone's communities are located in agricultural valleys. Thus, the principal conflict regarding land use is between agricultural use and residential development. There is relatively little conflict between commercial forest use and other uses. In other areas, the conflict between preservation for scenic or recreational values will conflict with pressures to develop.

Currently, rapid development is occurring in the area around the town of Siletz, as land for residences is inexpensive relative to prices on the coast and the summer climate is sunnier and warmer. Significant increases in the number of recreational lots and seasonal homes are appearing on the lower Siletz. Given the potential for seasonal homes to turn into retirement homes, the Siletz valley and the area around the town of Siletz present the most likely site of rapid changes in land use in the future. Increased residential use of the Siletz may also conflict with recreational use (fishing) in that river should water quality or access become problematic.

Land use plans have been created by county planning departments and county zoning exists. Greater detail is presented in them and in the Oregon Coastal Conservation and Development Commission report. Readers are referred to them (14, 41, 43, 88).

Management of the Planning Unit, if within any of the four Planning Alternatives, should have minimal impact on overall land use patterns in the Local Zone, and will have no effect on the land use patterns in the Regional Zone. (On specific sites, a management practice will definitely affect land use on adjacent land. For example, a clearcut area will lower the residential desirability of land adjacent to it.)

COMMUNITY COHESION AND VALUES

COMMUNITY COHESION AND VALUES

Values

"Values" are beliefs about what things are good and what things are bad. They are learned by individuals as they grow up and as they interact with people throughout life. Because values are socially exchanged and transmitted, we can think of them as "social" as well as "individual." When looking at a group, we usually find that group members agree with each other about a number of values. We then speak of these values as the values of group or community. A set of common values is seen by some Sociologists as essential to a group's or community's internal cohesion; others see economic and political relationships as far more important.

Different values of different groups serve to intensify conflicts between them, or may have served to initiate those conflicts. On the other hand, agreement on some values may enable some groups to cooperate with each other in some situations.

For example, we can easily imagine a group which values hard work; its members believe that hard work is intrinsically good and satisfying. Another group will see work as an unpleasant necessity and do as little of it as possible. Neither group will approve of the other's style of living, and should this conflict in values emerge as overt conflict, each side will see the other as "immoral," "inhuman," etc. However, in another situation, these same two groups might find that their jointly held belief in opposing rapid industrial and residential development would enable them to work together in a political setting.

No member of a group will share all of the values of the group, particularly if it has more than a dozen members, as each person has been exposed to a unique combination of experiences and memberships in other groups. For this reason, it is important for most groups to have a value of "tolerance" for some variation in their members' values. (This may be expressed either as "minding your own business" or as letting others "do their own thing.")

The discussion that follows attempts to point out some of the important values of various groupings in both the Local and Regional Zone. It is a general discussion. It must not be read as a definite catalog of the values of the various groupings. It should be useful in pointing out the types of value similarities and conflicts that might become important in future situations.

No scientific survey of values was made. (It was prohibited by the time and funds available, as well as by Federal regulations.) The observations about specific groups which follow are made on the basis of the researcher's observations, conversations with others, reading of local papers, and knowledge of the general correlates of values.

Values of Economic Activity Groupings

The most important and the most obvious values of the groupings in different economic activities are those associated with being economically successful in that activity. Thus, farmers value those practices and virtues that lead to successful agriculture; motel and restaurant owners value conditions and behaviors that increase trade and profit, government workers value public regulation and assistance programs, and homeowners value behavior and changes that maintain or improve the worth of their property.

Perhaps less obvious, but also important, is the fact that people value the non-economic aspects of their jobs and other economic acvitity. Farmers value the outdoor work, the independence of self-government, and the satisfactions of their work; woods workers enjoy the outdoor work, the physical activity, and the exercise of skills. In general, people like to be able to demonstrate their expertise in their chosen fields, and enjoy the companionship of co-workers.

For these reasons, the relevant values of economic groupings tend to endorse things as they are (and improvement of those conditions).

Values of Residential Groupings

People tend to take pride in their community and region if they have lived there for some time. This may be expressed as both positive pride in the community's character and traditions and as a mild hostility towards "outsiders." In the context of this report, residents of the Local Zone are more likely to express this pride or hostility than are those in the Regional Zone. They sense more "differentness" and typically see their way of life threatened with changes from the larger and economically more powerful patterns in the Regional Zone.

These values, particularly on the part of the local residents, will become more salient when local facilities are strained by newcomers or visitors, or when the political and economic power of the larger jurisdiction removes some local or individual prerogative.

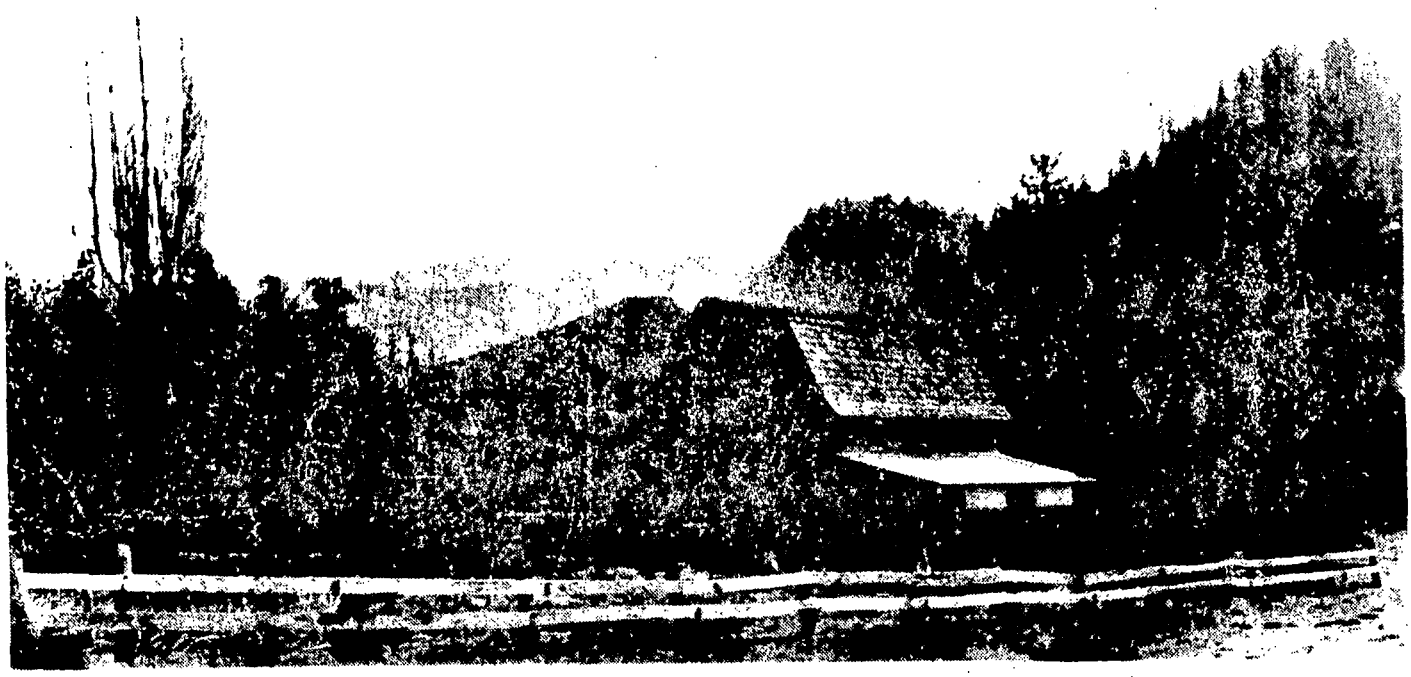
On the other hand, residents of the Regional Zone may believe that the facilities in the Local Zone, particularly the publically owned beach, parks and forests, and sem-public facilities, are legitimately matters for their concern and manipulation. They will tend to see local opposition to changes, regulations, and use as local selfishness and lack of vision.

Values of Ethnic Groups

An "ethnic group" is a grouping of people who, because of a continuing distinct cultural heritage, think of themselves as a unique group. Some of these groups may retain their language as their major language, and be very different than "typical Americans." Others are essentially "Americanized" and their ethnicity may appear only at special festivals.

Substantially unique ethnic groups form a small part of the population of both the Regional and Local Zone (see "Racial and Ethnic Composition"). In addition to the Blacks, Native Americans, and Spanish-Speaking Americans identified in that section, there is a substantial settlement of "Old Believer" Russians near Woodburn. Other than these groups, ethnicity is typically not a salient issue for most, though they may be Scandanavian-Americans, German-Americans, etc.

Except for the current issue regarding the tribes of the former Siletz Reservation (discussed below under Civil and Minority Rights), ethnic values play a minor role in daily life in both the Regional and Local Zone.



Values of Subcultures

Throughout the Regional and Local Zone are various groupings of people who have sufficiently different values to be labeled as "Subcultures." They share many of the values of the larger society, but emphasize some values more than others. In a modern setting, it is best to think of the entire culture as composed of subcultures, with the most commonly shared elements forming "the culture." In this case, as in the national setting, we see different subcultures by socal class, and can identify an upper-class subculture, middle-class subculture, and a lower-class subculture. There will be subcultures which endorse the traditional values of American society, while other subcultures will emphasize values somewhat different.

Some subcultures place great emphasis on material possessions, others little. Some emphasize neatness in the appearance of self and property, others may see it as superfluous, others prefer the extravagant and outrageous. Some emphasize the importance of hard work and thrift, others emphasize living for a moment. Some regard children as errant beings who must be carefully and rigorously disciplined, others see them as creative spirits who need freedom to blossom. Some are deeply Christian in their religious beliefs, others are joyfully pagan.

Value differences become apparent in discussions of preferred uses of forest land. Sociological research (10, 21, 24, 25, 59) presents a general configuration of values and preferences usually associated with urban or suburban, well educated, upper-middle class people. They are more likely to advocate preservation of forests, engage in "appreciative" uses of the forest (photography, hiking, bird watching), be less in favor of economic growth, prefer more primitive camping facilities, and to see "Nature" as something to be appreciated as it is. This set of values is consistent with the preservation aims of Management Alternative A. Opposing values, and by implication held by rural, less educated, middle and lower class people, would emphasize intensive economic utilization of the forest, "consumptive" forms of forest recreation (fishing, hunting), espouse economic growth, prefer developed campgrounds, and find satisfaction in the domination or alteration of "Nature." The economic orientation of this set of values is more attracted to Management Alternative B as is its recreational orientation.

These two pictures are broadly drawn, there are many exceptions to them, but many environmental issues can be seen as confrontations between these two different ways of looking at the forest environment. Other subcultures share in some or all of these values. The "counter-culture" or "hippie" subculture typically endorses the preservationist values; the urban lower, middle, and working class would tend to endorse the development values.

Change in Values

Values change as other aspects of the society change. The traditional values associated with family farms and small logging operations in the Local Zone 50 years ago (27) give way to the values of current urban life as the mass media presents its ideas, as old ways of living fail to hold the young in the community, and as increasing numbers of vacationeers come into the area. In the Regional Zone, similar changes occur.

The influx of the counter-culture with its endorsement of subsistence agriculture and economically lower standard of living has, along with its members, filled marginal farmsteads in the Local Zone. Although some of their values are not that different from traditional pioneer values, other values are, and they are not entirely welcome.

Both the Regional Zone and the Local Zone will be subject to the changes in values as they occur nationally.

Salient Value Conflicts

Currently the most salient value conflicts in the Local Zone concern conflicts over local and individual control of resources versus state and national environmental regulation. It takes different forms depending on the specific issue, whether it be land use planning, waste disposal, or use of waterways. Other conflicts occur in education.

Regulation of Value Conflicts

The principal response to different values in most communities, particularly in a modern, pluralistic setting is to attempt to minimize the differences. Differences that exist are ignored, if possible, under the idea of minding one's own business, or doing your own thing. Diversity and tolerance are applauded as appropriate patterns. Otherwise, people with different values rarely come into major contact with one another. Thus, mere differences in values do not, in themselves, cause too many problems.

However, if in attempting to carry out some activity, a group finds that it has clearly conflicting goals with other groups, differences in values become important. In this case, the political system has the major responsibility of regulating the conflict and deciding if things will be done in new or old ways, and which group will receive the majority of the available resources. Appeals are made through regulatory agencies, the court system, and legislative bodies to attempt to resolve the conflict.

Civil and Minority Rights

The principal issue regarding minority rights in the Local Zone is the issue regarding re-recognition of the tribes of the Siletz Reservation. There are several issues regarding civil and minority rights in the Regional Zone, but none directly affect or are affected by the Management Alternatives.

Currently, the most salient controversy in the Local Zone of Influence is the controversy surrounding the Siletz Restoration Act. This bill, sponsored by Senator Mark O. Hatfield, would restore federal recognition of members of the Confederated Tribes of the Siletz as Native Americans (22).

The principal benefits of this bill for former members and descendants of members of the former Siletz Reservation would be: (1) eligibility for various federal health and educational benefits to Native Americans amounting to some $300,000, and (2) a reaffirmation of an ethnic identity (22). One source mentions an attempt to establish an area as a reservation (less than 50 acres) (22), but any plans to acquire land were denied by those close to the issue (28, 56).

There seems to be little opposition to this aspect of the bill, though it is possible that some local opposition among Whites might appear if they believed that their land holdings might be condemned and acquired. Opposition to the Siletz Restoration Act comes primarily from sports fishermen who are concerned that Restoration, combined with court decisions similar to recent federal court decisions made in Washington State, would permit members of the Siletz Tribes to hunt, fish, and trap in the area without being affected by Oregon Game regulations. The most emotional statement of this concern involves a picture of gill netting salmon and steelhead -- a practice not permitted under Oregon Game law (51).

Those close to the Siletz Tribes assert that fish and game are minimal concerns to them compared to the major health and educational benefits. In fact, it seems that if guarantees by the Siletz Tribes of abiding by State Game law were made in the bill, it would have virtually no opposition. However, here the scene changes to a national political context. Despite the Siletz Tribe's minimal interest in special hunting and fishing rights, the national Indian lobby -- without whose support the Siletz Restoration Bill would not pass -- wants to avoid giving up any hunting and fishing claims. This is because the whole issue of Native Americans and individual State's rights in areas such as game, water rights, etc., have yet to be thoroughly settled nationally.

At this writing, the issue of restoration is yet to be resolved. However, restoration of federal recognition of members and descendents of members of the former Siletz Reservation should have minimal effect on activities in the Planning Unit, unless some additional bills and legal suits grant exemption from State fish and game laws, or grant additional land to the Siletz tribes. Such bills or suits have not been introduced.

Alternately, Management Alternatives will have some effect on the Siletz Tribes whether restoration is achieved or not. The Native Americans in the areas, particularly as coordinated through the Siletz Indian Manpower office, have a strong interest in working on timber management activities, such as reforestation, slash disposal, and precommercial thinning (56). Establishing a fire crew to work on fires throughout the West is also a potential Manpower project.

QUALITY OF LIFE FOR INDIVIDUALS

QUALITY OF LIFE FOR INDIVIDUALS

This section is essentially a review of previous material in the report, but from a different perspective. The previous perspective looked at the Zones of Influence as units, this perspective will look at the Management Alternatives from the point of view of the individual.

To do this, we will use the idea of "quality of life"--an idea that moves from the idea of the "standard of living," which is basically a quantitative idea, to an attempt to evaluate the overall quality of all aspects of a person's life. It has in it the idea of the satisfaction a person finds in his work, his friendships, and his leisure. Before looking at various specific areas, let us look further into the idea of "satisfaction" and the priorities of the various specific areas.

"Satisfaction" is the feeling one has when goals are reached. People do not usually set unrealistic goals for themselves, and can thus usually feel satisfied with some aspects of life. Goals are usually set according to what the person believes is feasible or likely. Thus, one's goals are based on what he has come to expect, or what credible sources tell him to expect.

This adds a relative dimension to satisfaction. A person with a usual income of $8,000 a year is satisfied with that, particularly if it is commensurate with his skills and comparable to what his friends make. A man whose friends make $20,000 per year, and who has the education and skills that usually demand a similar salary will be dissatisfied with an income of $12,000.

Thus, satisfaction can be achieved by either having moderate success or by having limited goals. Dissatisfaction may come from either a lack of success or by having unrealistic goals. People who have had their hopes raised will be more dissatisfied if they fail to materialize than those whose hopes were not raised.

Secondly, for different people some aspects of life are more important for satisfaction, or for a high quality of life, than others. Common sense tells us that physical needs must be met before artistic needs. This suggests that there is a priority in the different dimensions of a person's life, that some must be met before others. A psychologist, Abraham Maslow (36) argues

> that there is an inborn hierarchy of needs. The most basic are physiological, the need for food, water, sleep, protein, etc. Next most basic are the safety needs. They are followed, in turn, by the "belongingness and love needs," the esteem needs, and the need for self-actualization. According to Maslow, the more basic needs are normally dominant until such time as they are satisfied. The closer they come to being satisfied, the stronger the higher needs become. In the case of individuals in whom the physiological and safety needs are fully met, the higher needs are usually dominant.

One need not accept Maslow's argument entirely to find utility in the idea that some aspects of life are more basic than others, but after they are met, he explores other areas. With this in mind, we suggest four general aspects of life. First, biologically essential needs must be met --food, shelter, sleep, etc. Then concerns about the certainty of meeting these needs in the future leads to a concern about security and safety. While and after meeting the concerns about the security of biological essentials, a variety of social concerns appear -- to enjoy the company of others and the rewards of social approval. Secure in his biological and social setting, the person finally begins to broaden his concerns to individual creative aspects -- to expressing himself through recreation, enjoyment of aesthetics, and other types of creativity.

This priority of concerns also proximates a calculus of social justice. Few would argue that creative aspects should be lavishly presented to the few if basic biological and security needs are not met with certainty for all.

With this in mind, let us examine the effects of the various Management Alternatives on individuals in the Regional and Local Zone of influence. References are frequently made to the previously discussed areas of Social Organization. Readers may wish to review them.

Standard of Living

The material standard of living of residents in the Local Zone will be most affected by the Local Economy and the Social Welfare System, and also by Housing, Utilities and Transportation, In general, Standard of Living will be most favorably affected by Management Alternative B, and most negatively impacted by Alternative A. Management Alternative C would have some negative effects.

None of the Management Alternatives would have discernible effects on the Standard of Living in the Regional Zone.

Physical Safety and Health

In the Local Zone, safety and health will be most affected by the Health Care System, Law Enforcement and Emergency Services. Management Alternatives A and C will have the greatest negative impact on this aspect of Quality of Life in the Local Zone of Influence. Management Alternative B should have some slight favorable impact. No discernible effects will be noticed in the Regional Zone.

Consumer Economic Security and Satisfaction

The quality of economic security and satisfaction for consumers is a function of the Local Economy, Transportation, the health of the National and State Economy, and of the protection provided by the Social Welfare System.

The economic activity stimulated by Management Alternative B and Present Conditions are preferable in this aspect of life in the Local Zone to Alternatives A and C.

No detectable effects of instituting different plans will be noted in the Regional Zone.

Producer Economic Security and Satisfaction

Workers and businessmen in the Local Zone will look to the Local and the State and National economy for economic success and security. Job satisfaction is often related to doing what one already does well. Again, security and satisfaction in the Local Zone will be enhanced by Management Alternatives B and Present Conditions; threatened by Alternatives A and C.

The Alternatives effect on this area in the Regional Zone will not have sufficient variation to be noticeable.

Community Stability and Viability

Local Economy, Demographic Conditions, and Community Cohesion and Values all play a part in this aspect of life. People seem to enjoy life in stable communities, and thus is something of a response to needs for security. Management under Present Conditions would promote stability in communities in the Local Zone; Management Alternative B might provide a welcome and manageable economic boost; Alternatives A and C would damage the economic base of communities. (A large economic boom without promise of long-term activity, as might result in massive harvesting of forest products, would be deleterious to these communities.)

Minimal discernible effects will be noticed from any of the Alternatives in the Regional Zone as a whole.

Opportunities for Informal Participation

Can and do people easily participate in the life of their community, or are they inhibited from doing so? Consideration of the effects of the Local Economy as well as the Alternatives' effects on Voluntary Associations, Religious Organizations, Personal and Mass Communications, Transportation, and Recreation and Leisure is involved. Here the effects of the different Alternatives are much more mixed than earlier, and no clear net effect of the different alternatives in the Local Zone appears.

The different alternatives would have little effect on informal participation in the Regional Zone.

Opportunities for Formal Participation

Can and do people easily participate in the formal aspects of social life? In looking at Local Government and State and National Government, Emergency Services, and Educational Services in the Local and Regional Zone, participation does seem relatively easy and rewarding. It becomes more difficult in larger towns and counties. No alternative will have a discernible effect on this aspect of life.

Access to Public Amenities

Libraries, bookmobiles, public cultural events, parks, gymnasiums --are they available to most on an easy basis? This is partly a result of the organization and capabilities of Local Government, Recreation, and Leisure, Transportation, and Educational Services. As a result, these more "urban" types of leisure use will probably benefit most from Alternative B or Present Conditions, as Alternatives A and C will diminish the ability of Local Zone Communities to provide these services. There will be no discernible effect in the Regional Zone.

Recreational Opportunities

Outdoor Recreational Opportunities available to people in the Regional and the Local Zone will be affected by Planning Alternatives fairly directly. In addition, Transportation, Local Government, State and National Government, and Recreation and Leisure aspects of social organization will be involved. Clearly, Alternative C provides the greatest positive impact to Recreational Opportunities in both the Local and Regional Zone. Alternative B would somewhat reduce outdoor recreational opportunities, and Alternative A is projected not to change them.

Environmental Aesthetics

The different Management Alternatives will directly affect the appearance of the forest and landscape in the Planning Unit. This is both a Local and Regional concern. Alternative A would preserve the greatest acreage, Alternative B would allow the maximum modification. However, Alternative C would probably result in the forest having the most pleasant appearance owing to its specific concern with appearance in management activities throughout the Planning Unit.

Creative Opportunities - Education, Scientific, Artistic

These opportunities for residents of both the Local and Regional Zone should be little altered by the various Management Alternatives. (This assumes that the Cascade Head area will be retained in its current scenic state, and that forest in that area will remain for study of old growth ecosystems.) The roadless areas designated in Alternative A lack significant scenic value and as they are artificially planted areas, have only narrow educational and scientific interest.

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